

19
97

PRODUCT
CATALOG



WEST WINGS



STAR
WARS

FLY TO THE STARS

You have just opened the most fantastic flying model catalog available anywhere. Whether you love the screaming altitude and smoke of Estes rockets, the power from a nitro-breathing Cox engine, the chop of a prop from a rubber band powered Light Glider or the slicing glide of a West Wings™ jet plane, we have flying fun and adventure for you!

THE BEST IS SAVED FOR LAST.

The *Star Wars* saga – The most exciting movie trilogy ever to blast through humankind's imagination! Estes and Cox are proud to bring this epic space adventure to life with a universe of flying models: X-wings, Y-wings, TIE fighters and much more! So all of you Jedi Knights, Rebels and Imperials – hoister your blasters, hook up your lightsabers and let Estes and Cox transport you to a galaxy far, far away!



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ESTES FLYING MODEL ROCKETS

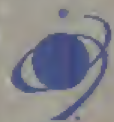
THE world leader in model rocketry. You always want the very best! Then Estes rocketry is the only way to go! Estes rockets are micro-versions of rockets flown all over this world and in galaxies near and far away. Not close to the real thing... they **are** the real thing!

Best of all, Estes rockets are reusable -- you can fly them over and over again. They can zip to a hundred feet off the deck or soar thousands of feet above the earth. Mega fun! -- and without really trying, you can even learn a little on why things fly -- COOL! Estes rockets are the official rockets of the U.S. Space Foundation! Almost 40 years of innovation and safety bring the reality and thrill of flying your very own rocket.

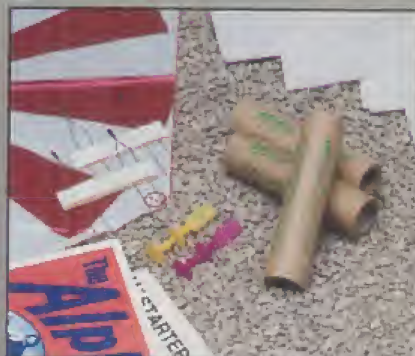
FLY 'EM HIGH!

FLY 'EM FAST!

FLY 'EM SAFE!



Official Rockets of the
United States Space
Foundation



IS IT SAFE?

Model rocketry is one of the safest hobbies in the world -- over 300 million model rockets have been launched since 1957. By the numbers, it is safer than most sports and activities. -- But it is up to you to keep it that way by following the Model Rocketry Safety Code at ALL times (see page 45 for code).

HOW DO I START MY OWN ESTES ROCKET FLEET?

Simple! A Starter Set has everything you need to launch -- A launch controller, launch pad, an easy to assemble rocket and launch supplies for the first few flights. You just need to supply the batteries (four AA's) and the glue!

HOW EASY AND HOW MUCH TIME DOES IT TAKE TO BUILD MY ROCKETS?

Estes kits range from the man-hour-to-assemble models to rockets that provide many enjoyable hours to build. We have classified our kits into five categories:

ALMOST READY TO FLY (E2X® SERIES): No painting or special tools required! There is limited cutting and rockets can be assembled in one or two hours. E2X kits are complete with out-of-this-world, colorful self adhesive decals and pre-colored parts.

LEVEL 1 (BETA™ SERIES): Quick and easy to build kits with some sanding, cutting and painting required. Easily built on a lazy Saturday afternoon! Most kits feature our T™ Fin System (Through-The-Tube) -- giving you strong and precisely mounted fins.

LEVEL 2 (EXPLORER™ SERIES): This is the first tier of craftsman kits. These kits require more time in building and painting. In this series, you will find rockets that use Estes' largest engine -- the "D".

LEVEL 3 (CHALLENGE™ SERIES): The second order of craftsmanship, with kits that combine challenging construction techniques with a high level of flying enjoyment.

LEVEL 4 (MASTERS™ SERIES): These kits require a high degree of modeling involvement from building to painting. The result is a rocket with museum-like qualities that really flies!

HOW DO MODEL ROCKETS WORK?

You build or assemble the rocket -- Estes makes the engines -- safe and proven. You insert the engine into the rocket and ignite it electrically. The rocket blasts off realistically. The engines are only used once. After the flight, you take the engine out, put a new one in and fly again -- over and over.

WHERE DO I FLY?

This chart tells you what size field for what size engine. Each engine size is twice as powerful as the letter before it. See the engine section (page 34) of this catalog for more information.

WHAT DO I NEED TO KNOW?

In this catalog, each description lists important INFORMATION:

- Something fun about the rocket.
 - Specifications -- how tall, wide and weight.
 - What engines we recommend, especially for that all-important very first flight!
 - How high, on the largest engine recommended, the rocket flies (in feet and in meters).
 - The sort of recovery system that brings the rocket back -- parachute, streamer or other.
- Pick out your favorite rockets...and watch for the Rocket Tips for valuable info on model rocketry.

Remember -- Estes model rocket kits offer you a wide spectrum of building and flying. Best of all, they are all **FUN** to assemble, build and fly!

PLEASE READ: IMPORTANT STUFF!

Model Rocketry is recommended for ages 10 years and up. Adult supervision is recommended for those under 12 years of age.

Unless otherwise specified all models require assembly. Engines, launch system, glue and finishing supplies are not included with the kits unless specified otherwise!

Prices subject to change without notice.

USE ONLY WITH ESTES PRODUCTS

Caution: Use of this Estes product with any other brand-name rocket product containing any defect or causing any damage may void the Estes warranty.

Maximum altitudes are projections only -- your rocket's actual performance may vary.

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LAUNCH AREA:

Choose a large field away from power lines, buildings, tall trees, and low-flying aircraft. This chart shows the smallest recommended launch areas.

ENGINE TYPE	ESTIMATED ALTITUDE		MINIMUM LAUNCH SITE DIMENSION*	
	FEET	METERS	FEET	METERS
ALL DELAYS				
1/2A	200	61	50	15
A	400	122	100	30
B	800	244	200	61
C	1,600	488	400	122
D	1,800	549	500	152

* Minimum circular area = Diameter in feet or meters
Minimum rectangular area = Shortest side in feet or meters

Launch site must be free of obstructions and highly flammable materials.

ROCKET TIP

In most cases, baseball, soccer or football fields are great launch areas!



Starter Sets



- Launch into the thrilling world of Estes rocketry! Starter Sets contain everything you need (except glue and finishing) to start:
- A cool looking, almost ready to fly rocket that will take you out on the flying field in less than two hours.
 - The versatile Porta Pad® II launch pad and the highly reliable Electrop Beam® launch controller.
 - And since all of our Estes rockets can be flown over and over again, each Starter Set has spare launch supplies for your first few flights.
 - Everything comes complete in a trimable flight box.

SABRE™ EST 1473

A great starting point for the first time rocketeer! High performance design with two interchangeable recovery systems. Includes a parachute for soft landings and a streamer for high altitude flights. Also includes engines for the first two exciting flights!

SPECS, Skill Level: Almost Ready to Fly (EZ) Small
Length: 16.5" (41.9 cm) **Dia.:** 1.0" (25.4 mm) **Wt.:** 1.6 oz (45 g)
Recovery: 12" (30 cm) Parachute or Streamer
Max. Altitude: 1000 ft (305 m)
Recommended Engines: 1/2A6, 2, A8-3 (first flight) B4-4, B6-4, B6-6, C6-5, C6-7

NEW!

FLIGHTS TO 1000 FEET (305 M)!



SABRE™ STARTER SET



Starter Sets



**HELICAT™
STARTER SET**



**SUPER SHOT™
STARTER SET**

ROCKET TIP
Apogee is
the highest
point in a
rocket's
flight.



**ALPHA III™
STARTER SET**



**SPACE SHUTTLE™
STARTER SET**



**AIRWALKER™
STARTER SET**



SUPER SHOT™ EST 1449

A two rocket combo with superb performance and sky full of fun! The Super Shot™ rocket delivers high performance and parachute recovery in an easy to build kit. The second rocket, the Twister™, is a simple to build and paint kit featuring a recovery with a different spin — after an out-of-right flight, the Twister™ separates into two helicopter recovered pods. Three engines included for three super flights!

SUPER SHOT™

SPECS: Skill Level: Almost Ready To Fly (E2X® Series); Length: 19.5" (49 cm); Dia.: 1.0" (25.4 mm); Wt.: 1.6 oz (45.3 g); Recovery: 12" (30 cm) Parachute; Max. Altitude: 1000 ft (305 m); Recommended Engines: A8-3 (first flight), B4-4, B6-4, C6-3, C6-5

TWISTER™

SPECS: Skill Level: 1 (Beta® Series); Length: 9.7" (24.6 cm); Dia.: 0.75" (19.1 mm); Wt.: 0.5 oz (14.2 g); Recovery: Helicopter; Max. Altitude: 1000 ft (305 m); Recommended Engines: 1/2A6-2 (first flight), A8-3, B4-4, B6-4, C6-3

HELICAT™ EST 1465

Huge, rip-roaring rockets with helicopters separated from one! The nearly 3 foot tall rocket has a colorful worm graphic decal sheet and engine for your first brave flight!

SPECS: Skill Level: Almost Ready To Fly (E2X® Series); Length: 33.5" (85.1 cm); Dia.: 1.25" (31.8 mm); Wt.: 7.0 oz (195 g); Recovery: Rocket; 18" (45.7 cm) Parachute; Nose Cone: Helicopter; Max. Altitude: 800 ft (244 m); Recommended Engines: B4-2, B6-2 (first flight), C6-3, C6-4, C6-5

ALPHA III™ EST 1406

More people have started with this awesome rocket than any other in the history of the world! Features a highly modified one-piece fin unit and nose cone and engine for three amazing parachute recovered flights!

SPECS: Skill Level: Almost Ready To Fly (E2X® Series); Length: 12.25" (31.1 cm); Dia.: 0.98" (24.8 mm); Wt.: 1.2 oz (34 g); Recovery: 12" (30 cm) Parachute; Max. Altitude: 1000 ft (305 m); Recommended Engines: 1/2A6-2, A8-3 (first flight), B4-4, B6-4, B6-5, C6-5, C6-7

SPACE SHUTTLE™ EST 1467

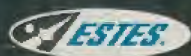
Sport scale of the actual Space Shuttle Orbiter. Flies like the real thing! Rockets to 300 feet and glides back to Earth! The power pod returns with a parachute. Includes two engines for two missions!

SPECS: Skill Level: Almost Ready To Fly (E2X® Series); Length: 14.75" (37.5 cm); Wingspan: 10.0" (25.4 cm); Wt.: 7.0 oz (199 g); Recovery: Shuttle; Shuttle: Glider, Power Pod; 18" (45 cm) Parachute; Max. Altitude: 300 ft (100 m); Recommended Engine: C6-3

AIRWALKER™ EST 1410

Sleek high performance payload rocket. Carry stuff into the sky: bugs, flowers, toy figures, maybe your favorite rock or coin. Launch payloads to over 1000 feet high; get 'em back on a chute! Special chrome colored reflective body tube.

SPECS: Skill Level: Almost Ready To Fly (E2X® Series); Length: 20.0" (50.8 cm); Dia.: 1.0" (25.4 mm); Wt.: 2.0 oz (57 g); Recovery: 12" (30 cm) Parachute; Max. Altitude: 1000 ft (305 m); Recommended Engines: A8-3 (first flight), B4-4, B6-4, C6-3, C6-5



NEW!



ASTROSAT LSX™



BANDIT™

NEW!



MK-109
STINGRAY™

Almost Ready to Fly
(E2X® Series)
• Great First Rockets!
• No Painting Required
• Assembles in about
an hour

NEW!



FLASHES IN
THE SKY!

FLASH™



STAR BOOSTER™

NEW!
EXCLUSIVELY
FROM ESTES



ASTROSAT LSX™ EST 2133

Astrosat LSX™ (Light Satellite Experimental) at the Estes Space Corps ejects two streamer equipped satellites at the end of its ascent. This futuristic vehicle flies missions up to 300 feet. Easy to assemble — no painting and authentic looking self adhesive decals!

SPECS: Length: 19.0" (48.3 cm); Dia.: 1.35" (34.2 mm);
Wt.: 3.2 oz (91g); Max. Altitude: 300 ft (90 m);
Recovery: 18" (45 cm) Parachute; Recommended Engines:
B4-2, B6-2 (first flight), C5-3, C6-3, C6-5

BANDIT™ EST 2060

Rugged, sleek and merciless performance every time — Escapes to over 1000 feet and every flight recovers with a chute!

SPECS: Length: 18.6" (47.1 cm); Dia.: 1.0" (25.4 mm);
Wt.: 1.6 oz (45 g); Recovery: 12" (30 cm) Parachute;
Max. Altitude: 1000 ft (305 m); Recommended Engines:
A8-3 (first flight), B4-4, B6-4, B6-6, C5-3, C6-3, C6-5

MK-109 STINGRAY™ EST 2131

Ship-to-Air missile looks authentic with US Navy markings. Easy to build! No painting! Launches to over 1000 feet altitude!

SPECS: Length: 16.0" (40.6 cm); Dia.: 1.0" (25.4 mm);
Wt.: 1.7 oz (47 g); Recovery: 12" (30 cm) Parachute;
Max. Altitude: 1000 ft (305 m); Recommended Engines:
A8-3 (first flight), B4-4, B6-4, B6-6, C5-3, C6-3, C6-5

FLASH™ EST 2137

A stellar performer with a giant, pre-wrapped prismatic payload section. The huge Flash™ will be noticed anywhere — on the ground or in the air.

SPECS: Length: 28.3" (71.9 cm); Dia.: 0.976" (24.8 mm);
Wt.: 2.0 oz (57 g); Recovery: 12" (30 cm) parachute;
Max. Altitude: 1000 ft (305 m); Recommended Engines:
A8-3 (first flight), B4-4, B6-4, B6-6, C5-3, C6-3, C6-5

STAR BOOSTER™ EST 2145

Accurately modeled spacecraft from Buzz Aldrin's science fiction thriller — *Encounter with Tiber*. Easy-to-build kit features rear ejection parachute, plastic and foam details and futuristic decals.

SPECS: Length: 18.0" (45.7 cm); Dia.: 1.6" (39.7 mm);
Wingspan: 9.5" (24.1 cm); Recovery: 18" (45 cm) Parachute;
Recommended Engines: C5-3, C6-3 (first flight)

NEW!



NIKE ARROW™



ATHENA™



GNOME™



ALPHA III®



RAMPAGE™

NEW!



BANSHEE™

ATHENA™ EST 2026

Plastic chrome nose cone, one-piece fin unit and a high performance design combine to make one cool-looking, sleek rocket!

SPECS: Length: 15.0" (38.1 cm); Dia.: 0.976" (24.8 mm);
Wt.: 1.3 oz (36 g); Recovery: 12" (30 cm) Parachute;
Max. Altitude: 1000 ft (305 m); Recommended Engines:
1/2A6-2, A8-3 (first flight), B4-4, B6-4, B6-5, C6-5

GNOME™ EST 0886

Mini-powered, almost ready to fly model. Quite altitudes on mini-engines - great for flying on small fields! Features chrome body tube and a one-piece fin unit.

SPECS: Length: 10.25" (26 cm); Dia.: 0.544" (13.8 mm);
Wt.: 0.42 oz (12 g); Recovery: Streamer; Max. Altitude:
800 ft (244 m); Recommended Engines: 1/2A3-ST (first flight),
1/2A3-4T, A3-4T, A10-3T

NIKE ARROW™ EST 0835

Sleek and fast with scale appearance. Reflective chrome colored body tube and 2 one-piece plastic fin units - easy to build! Single stage mini-engines power this rocket recovery!

SPECS: Length: 17.0" (43.2 cm); Dia.: 1.036" (26.3 mm);
Wt.: 1.0 oz (28 g); Recovery: Streamer;
Max. Altitude: 305 ft (93 m);
Recommended Engines: 1/2A3-ST, A3-4T, A10-3T (first flight)

ALPHA III™ EST 1299

The very first Estes almost-ready-to-fly rocket! One-piece fin unit! Millions have started with this simple design. Still a favorite!

SPECS: Length: 12.25" (31.1 cm); Dia.: 0.870" (22.1 mm);
Wt.: 1.2 oz (34 g); Recovery: 12" (30 cm) Parachute;
Max. Altitude: 1100 ft (330 m);
Recommended Engines: 1/2A6-2, A8-3 (first flight), B4-4,
B6-4, B6-5, C6-5, C6-7

RAMPAGE™ EST 2061

No painting, plastic fins, builds under an hour! A quick way to get into payloading. Cool, pre-colored body tubes and wild decals finish up this hot performer.

SPECS: Length: 19.5" (50.0 cm); Dia.: 1.0" (25.4 mm);
Wt.: 1.8 oz (50.2 g); Recovery: 12" (30 cm) Parachute;
Max. Altitude: 985 ft (300 m); Recommended Engines:
A8-3 (first flight), B4-4, B6-4, C5-3, C6-3, C6-5

BANSHEE™ EST 2132

Howl at the sun with this screaming bad boy! Lean and mean! Quick to build! The high performance design assures maximum altitude every time. Features parachute recovery!

SPECS: Length: 16.5" (42.1 cm); Dia.: 1.0" (25.4 mm);
Wt.: 1.6 oz (45 g); Recovery: 12" (30 cm) Parachute;
Max. Altitude: 1100 ft (335 m); Recommended Engines:
A8-3 (first flight), B4-4, B6-4, B6-5, C6-5, C6-7



BAIL-OUT™



RAIDER™



INVADER™



OMLOID™



NEW!

MACH-12™



X-RAY™



HIJAX™

ROCKET TIP

Payloading is the science of carrying "stuff" into near-Earth orbit. Launch toy action figures, flowers, glow sticks, marbles, eggs, real science experiments, etc., etc.

REDIROCS™

RAIDER™ EST 2123
INVADER™ EST 2123

Ready to fly? Or do you want to launch your own payload? You can! It's all you want to launch (with recovery). Maximum payload is only 10g. Lighten up with only 10g of payload!

SPECS: Length: 3.5 (10.6 cm), Wt: 1.5 (4.2 g), Recovery: Parachute, Max. Altitude: 100 ft (30 m), Recommended Engines: A10-BT

BAIL-OUT™ EST 2070

This "Bail-Out" rocket carries your favorite Estes Space Office "Bail-Out" and "Bail-Out" with a parachute. It's all you want to launch (with recovery). Maximum payload is only 10g. Lighten up with only 10g of payload!

SPECS: Length: 24 (60.9 cm), Wt: 1.5 (4.2 g), Recovery: Parachute, Max. Altitude: 100 ft (30 m), Recommended Engines: A10-BT

OMLOID™ EST 2028

Long lasting, heavy duty and ready to fly. It's all you want to launch (with recovery). Maximum payload is only 10g. Lighten up with only 10g of payload!

SPECS: Length: 18 (45.7 cm), Wt: 1.5 (4.2 g), Recovery: Parachute, Max. Altitude: 100 ft (30 m), Recommended Engines: A10-BT

MACH-12™ EST 2130

On demand, ready to fly. It's all you want to launch (with recovery). Maximum payload is only 10g. Lighten up with only 10g of payload!

SPECS: Length: 21 (53.3 cm), Wt: 1.5 (4.2 g), Recovery: Parachute, Max. Altitude: 100 ft (30 m), Recommended Engines: A10-BT

X-RAY™ EST 0834

Miniature, ready to fly. It's all you want to launch (with recovery). Maximum payload is only 10g. Lighten up with only 10g of payload!

SPECS: Length: 14 (35.6 cm), Wt: 1.5 (4.2 g), Recovery: Parachute, Max. Altitude: 100 ft (30 m), Recommended Engines: A10-BT

HIJAX™ EST 2105

Clear window, ready to fly. It's all you want to launch (with recovery). Maximum payload is only 10g. Lighten up with only 10g of payload!

SPECS: Length: 10 (25.4 cm), Wt: 1.5 (4.2 g), Recovery: Parachute, Max. Altitude: 100 ft (30 m), Recommended Engines: A10-BT

Level 1 (Beta™ Series)

- Quick and easy-to-build kits with some sanding, cutting and painting required.
- Most kits feature our T³ (Through-The-Tube) Fin System

ROCKET TIP

Featherweight recovery means the rocket is so light-weight, the engine ejects and the rocket returns safely to the ground.



SKYWINDER™



TURBOCOPTER™



MANTA™



WIZARD™



MOSQUITO™

NINJA™



ALMOST READY TO FLY
(E2X™ SERIES)

SKYWINDER™ EST 2077

The easiest way to get into model rocketry. Through-the-tube (T³) design. No glue. No sand. No paint. No fuss. No feathers. Just a rocket that's almost ready to fly.

SPECS: Length: 20.4" (518 mm), Dia.: 1.31" (33.2 mm),
Wt.: 0.8 oz (22.7 g), Recovery: Streamer, Max. Altitude: 1500 ft (457 m),
Recommended Engines: A3-3T, A6-3, B6-3, C6-3

TURBOCOPTER™ EST 2098

Mini-engine powered rocket with a featherweight recovery system. The rocket is so light that the engine ejects and the rocket returns safely to the ground.

SPECS: Length: 11.7" (297 mm), Dia.: 0.98" (25 mm),
Wt.: 0.8 oz (22.7 g), Recovery: Streamer, Max. Altitude: 1500 ft (457 m),
Recommended Engines: A3-3T, A6-3, B6-3, C6-3

MANTA™ EST 2047

Lightweight, featherweight recovery system. The rocket is so light that the engine ejects and the rocket returns safely to the ground.

SPECS: Length: 10.3" (262 mm), Dia.: 0.98" (25 mm),
Wt.: 0.8 oz (22.7 g), Recovery: Streamer, Max. Altitude: 1500 ft (457 m),
Recommended Engines: A3-3T, A6-3, B6-3, C6-3

LEVEL 1 (BETA™ SERIES)

WIZARD™ EST 1292

No tricks here — just a full-sized, full-sized 2000 ft max. altitude! Self-adhesive decals and die cut balsa fins — perfect easy-to-build rocket!

SPECS: Length: 12.7" (323 mm), Dia.: 0.736" (18.7 mm),
Wt.: 0.8 oz (22.7 g), Recovery: Streamer, Max. Altitude: 1500 ft (457 m),
Recommended Engines: 1/2A3-3T, A3-3T, A6-3, B6-3, C6-3

MOSQUITO™ EST 0801

Mini-engine powered bug of a rocket with screaming high altitude performance. Featherweight recovery for safe returns.

SPECS: Length: 3.9" (99 mm), Dia.: 0.543" (13.8 mm),
Wt.: 0.1 oz (2.8 g), Recovery: Featherweight, Max. Altitude: 600 ft (183 m),
Recommended Engines: 1/2A3-3T, A3-3T, A6-3, B6-3, C6-3

NINJA™ EST 0882

Lightning quick performance and super altitudes in mini-engine power. Die cut card fins and hot self-adhesive decals!

SPECS: Length: 10.6" (269 mm), Dia.: 0.736" (18.7 mm),
Wt.: 0.58 oz (16.4 g), Recovery: Streamer, Max. Altitude: 525 ft (160 m),
Recommended Engines: 1/2A3-3T, A3-3T, A6-3, B6-3, C6-3



NEW!

QUARK™



**YELLOW
JACKET™**



**BIG
BERTHA™**



YANKEE™

**BETA
SERIES**

ALPHA®



**NOVA
PAYLOADER™**



QUARK™ EST 8842

A fun-to-build payload rocket. With a specially designed motor, this rocket carries a 1/2 oz. (14 g) payload to 700 feet. Easy to build, with a simple design. Perfect for the first rocket launch.

SPECS: Length: 3.2' (97.5 cm), Dia.: 1.54" (3.9 mm),
Wt.: 1.1 oz (31 g), **Recovery:** Parachute, **Max. Altitude:**
700 ft (213 m), **Recommended Engines:** 1/2A-1, 1/2A-2,
1/2A-3, 1/2A-4, 1/2A-5

YELLOW JACKET™ EST 2804

A rocket with a lot of zip! Designed for high performance, this rocket is a real challenge. Easy to build, with a simple design. Perfect for the first rocket launch.

SPECS: Length: 10.8' (32.9 cm), Dia.: 1.54" (3.9 mm),
Wt.: 1.1 oz (31 g), **Recovery:** 12" (30.5 cm) Parachute,
Max. Altitude: 1400 ft (427 m), **Recommended Engines:**
A1-A (first flight), B1-A, B1-B, B1-C, B1-D, B1-E

BIG BERTHA™ EST 1948

Burly, big and beautiful! Over the decades this is the first big (12 feet tall) rocket for many modelers! Show multiple lift-off!

SPECS: Length: 24' (7.3 m), Dia.: 1.54" (3.9 mm),
Wt.: 2.2 oz (62.3 g), **Recovery:** 18" (45.7 cm) Parachute,
Max. Altitude: 1400 ft (427 m), **Recommended Engines:**
1/2A-2, B1-A, B1-B, B1-C, B1-D, B1-E

YANKEE™ EST 1381

A rocket with All-American performance—designed to meet the 1901 Air Corps competition. Comes with one half-inch (1.27 cm) of lead, white and blue look.

SPECS: Length: 1.4' (37.5 cm), Dia.: 1.54" (3.9 mm),
Wt.: 0.42 oz (11.9 g), **Recovery:** Stabilized,
Max. Altitude: 1400 ft (427 m), **Recommended Engines:**
1/2A-2 (first flight), B1-A, B1-B, B1-C, B1-D, B1-E

ALPHA® EST 1225

For over 50 years, the Alpha® has been the first choice for millions of rocket modelers. Easy to build, rugged high performance, parachute recovery. The perfect rocket to get you started!

SPECS: Length: 12.25' (37.5 cm), Dia.: 1.54" (3.9 mm),
Wt.: 0.8 oz (22.7 g), **Recovery:** 12" (30.5 cm) Parachute, **Max. Altitude:**
1000 ft (305 m), **Recommended Engines:** 1/2A-2,
A1-A (first flight), B1-A, B1-B, B1-C, B1-D, B1-E

NOVA PAYLOADER™ EST 1980

Clear payload capsule, lightweight design with base for high altitude performance. Perfect for making a great cargo-carrying rocket!

SPECS: Length: 21" (53.3 cm), Dia.: 1.54" (3.9 mm),
Wt.: 1.33 oz (37.6 g), **Recovery:** 12" (30.5 cm) Parachute,
Max. Altitude: 1000 ft (305 m), **Recommended Engines:**
A1-A (first flight), B1-A, B1-B, B1-C, B1-D, B1-E (with payload) B1-A,
B1-B, B1-C, B1-D, B1-E



NEW!



FATBOY™

NEW!

ROCKET TIP

These rockets have the T[®] Fin System. The body tube on the rocket has been slotted and the fins fit through the slot. This makes the fin joint strong and properly aligned. T[®] is a trademark of Estes Industries.



SIZZLER®

NEW!



VENOM™

NEW!



FIRESTREAK™



CORKSCREW™

FIREBIRD™ EST 2138

Too hot to hold back! Punch holes in the sky with this fantastic two foot tall sport flier! Ripping through the air to over 1000 feet high flight after flight.

SPECS: Length: 23.9" (60.7 cm); Dia.: 1.33" (33.7 mm);
WL: 2.1 oz (60 g); **Recovery:** 18" (45 cm) Parachute;
Max. Altitude: 1080 ft (330 m); **Recommended Engines:**
 A8-3 (first flight), B4-4, B6-4, C6-5, C6-7

FATBOY™ EST 2139

Fat boy...and proud of it! Over 2-1/2 inches in diameter and just over 12 inches high! Bullies its way to over 300 feet in altitude and recovers with a chute!

SPECS: Length: 12.9" (32.8 cm); Dia.: 2.60" (66.0 mm);
WL: 3.0 oz (85 g); **Recovery:** 18" (45 cm) Parachute;
Max Altitude: 325 ft (100 m); **Recommended Engines:**
 B4-2, B6-2 (first flight), C5-3, C6-3

SIZZLER® EST 2127

Hot looking rocket over two feet tall! Fantastic performance — blazes to over 400 feet! Features a mar ejecting engine pod, deploying a large parachute at apogee. No wadding needed!

SPECS: Length: 27.8" (70.6 cm); Dia.: 1.637" (41.7 mm);
WL: 3.9 oz (110 g); **Recovery:** 18" (45 cm) Parachute;
Max Altitude: 400 ft (122 m); **Recommended Engines:**
 B4-2, B6-2 (first flight), C5-3, C6-3, C6-5

VENOM™ EST 2140

No one knows what part of the universe this rocket comes from, but it's got altitude, altitude and sneaky good looks. Quick strikes to over 1100 feet.

SPECS: Length: 18.5" (47 cm); Dia.: 0.976" (24.8 mm);
WL: 1.2 oz (34g); **Max Altitude:** 1100 ft (335 m);
Recovery: 12" (30 cm) Parachute; **Recommended Engines:**
 A8-3 (first flight), B4-4, B6-4, B6-6, C6-5, C6-7

FIRESTREAK™ EST 2107

Two long metallic-looking red and gold recovery streamers highlight this rocket. Hot flame decor and high altitude performance!

SPECS: Length: 14.75" (37.5 cm) Dia.: 1.0" (25.4 mm);
WL: 1.35 oz (38.5 g); **Recovery:** Dual Streamers;
Max. Altitude: 1000 ft (305 m); **Recommended Engines:**
 1/2A6-2, A8-3 (first flight), B4-4, B6-4, B6-6, C5-3, C6-3, C6-5

CORKSCREW™ EST 2114

Special engine and fin position makes this rocket spin and spiral on the way UP! The Corkscrew™ leaves wild smoke trails in the sky! Easy to build — Great fun to fly!

SPECS: Length: 21.25" (54 cm); Dia.: 1.0" (25.4 mm);
WL: 1.9 oz (53 g); **Recovery:** 12" (30 cm) Parachute;
Max. Altitude: 800 ft (244 m); **Recommended Engines:**
 A8-3 (first flight), B4-4, B6-2, B6-4, C6-3, C6-5



TWO STAGE
FUN!

MONGOOSE™

TRANSWING™
SUPER GLIDER

TAKE
PICTURES
FROM
HIGH UP!

VIKING™

NEW FOR 1997!
EASIER TO BUILD
CAMERA

ZINGER™

ASTROCAM® 110

RELIANT™

TRANSWING™ SUPER GLIDER

EST 2112

Slides off the pad like a rocket out of a cannon. The Power Pod takes away everything else except the Transwing Super Glider. Easy to build - the painted fuselage over one minute is possible.

SPECS: Length: 26.0 (66 cm) Dia.: 0.978" (24.8 mm) Glider Wingspan: 26.0 (66 cm) Glider WL: 2.0 oz (56 g) Recovery: Glider Power Pod Shower (Max. Altitude: 100 ft (30 m)) Recommended Engines: B-4, B-6, C-3 (first flight) C-5

ZINGER™ EST 1917

A great super lightweight rocket with outstanding recovery performance - 2000 feet altitude! Comes with pre-cut adhesive decal and adhesive tape.

SPECS: Length: 16.25 (41 cm) Dia.: 0.738" (18.7 mm) WL: 0.3 oz (8.5 g) Recovery: Streamer (Max. Altitude: 2000 ft (610 m)) Recommended Engines: A-5 (first flight) B-4, B-6, C-5

ASTROCAM® 110 EST 1327

What a ride the moon is! The Astrocam 110 is a great rocket for the family. Hundreds of feet up! Easy to build. No painting - the pre-cut adhesive decal and tape make it easy to build. Includes camera lens and tape.

SPECS: Length: 18.1 (46 cm) Dia.: 0.738" (18.7 mm) WL: 0.7 oz (19.5 g) Camera shutter speed: 1/500 sec. (Max. Altitude: 100 ft (30 m)) Recovery: Streamer (Max. Altitude: 500 ft (152 m)) Recommended Engine: C-5 only

VIKING™ EST 1943

Fastest rocket with multiple possible configurations - 48 in all. Features die cut and pre-cut adhesive decal and streamer recovery. Super high altitude flights!

SPECS: Length: 12.13 (30.8 cm) Dia.: 0.738" (18.7 mm) WL: 0.71 oz (20.1 g) Recovery: Streamer (Max. Altitude: 1470 ft (450 m)) Recommended Engines: A-5 (first flight) B-4, B-6, C-5, C-6, C-7

MONGOOSE™ EST 2092

Snakes won't get close to this one! Perfect first two-stage rocket! Super-quick to build with high altitude performance - over 1800 feet! Pre-colored with two one-piece fin units, crazy-looking self-adhesive decal.

SPECS: Length: 26.5" (67.3 cm) Dia.: 0.88" (22.4 mm) WL: 2.3 oz (65 g) Recovery: Streamer (Max. Altitude: 1500 ft (457 m)) Recommended Engines: Single Stage flights - A-5 (first flight), B-4, B-6, C-5, Two Stage flights - Booster Stage - B-6 (first flight) C-6, Second Stage - B-6, C-6

RELIANT™ EST 1986

Sounding rocket details and fiber fins make up this fast performer. Easy rocket to build and paint!

SPECS: Length: 12.5" (31.8 cm) Dia.: 0.738" (18.7 mm) WL: 0.62 oz (17.5 g) Recovery: Streamer (Max. Altitude: 1450 ft (442 m)) Recommended Engines: 1/2A5-2 (first flight), A-5, B-4, B-6, B-6, C-5, C-6, C-7



F-117 NIGHTHAWK™



CAUTION -
ALIEN
INSIDE!

**VENUS
PROBE™**



**F-22 AIR
SUPERIORITY
FIGHTER™**



**AIM-9
SIDEWINDER™**

F-117 NIGHTHAWK™ EST 2117

Rocket boost glider (assembled after the F-117 Stealth Fighter) Tuff-Flex™ foam tubing is easy to build. The F-117 glides straight up in a wind boost. At apogee, power pod activates glide phase.

SPECS: Length: 16.0" (40.6 cm); Wingspan: 15.5" (39.4 cm); Wt.: 6 oz (170 g); Recovery: Glider, Power Pod, Streamer; Max. Altitude: 250 ft (76 m); Recommended Engines: C6-3

F-22 AIR SUPERIORITY FIGHTER™

EST 2124

The flight aircraft of the Estes Space Corp.'s F-22 rocket skyward on a booster straight into the air. At apogee, booster falls away and glider swoops down out of the sky. Easy-to-build glider and booster.

SPECS: Glider Length: 13.5" (34.3 cm); Wingspan: 9.25" (23.5 cm); Glider Wt.: 1.6 oz (45 g); Booster Length: 25.5" (64.8 cm); Dia.: 1.33" (34 mm); Wt.: 1.9 oz (55 g); Recovery: Glider & Booster: 18" (45 cm) Parachute; Max. Altitude: 250 ft (76 m); Recommended Engines: B4-2 (first flight), B6-2, C5-3, C6-3

VENUS PROBE™ EST 2120

Find the Truth! Mothership deploys alien lander (alien included!). Lander extends legs and descends under its own parachute - lands upright every time! Mothership returns on its own 'chute!

SPECS: Length: 27.0" (68.6 cm); Dia.: 1.325" (33.7 mm); Wt.: 5.1 oz (145 g); Landing Gear Span: 24" (61 cm); Alien Lander Ht.: 10.5" (26.7 cm); Recovery: 12" (30 cm) and 18" (45 cm) Parachute; Max. Altitude: 250 ft (76 m); Recommended Engines: C5-3 (first flight), C6-3

AIM-9 SIDEWINDER™ EST 2125

Giant 1/4 scale model of the famous air-to-air missile. Model comes complete with plastic detailed nose cone and the T³ Fin Mounting System for main and nose cone mounted fins.

SPECS: Length: 30.2" (76.7 cm); Dia.: 1.33" (33.7 mm); Wt.: 4.2 oz (120 g); Recovery: 12" (30 cm) and 18" (45 cm) Parachutes; Max. Altitude: 390 ft (120 m); Recommended Engines: B4-2 (first flight), B6-2, C5-3, C6-3

NEW!

EXPLORER SERIES

NEW!

Level 2 (Explorer™ Series)

- Requires more skill in building and painting
- Includes rockets that use Estes "D" engines

**D ENGINE
POWER**

MANIAC™

**MEAN
MACHINE™**

NEW!

GEMINI DC™

**D ENGINE
POWER**

**SILVER
COMET™**

TORNADO™

**D ENGINE
POWER**

PYTHON™

SILVER COMET™ EST 2141

Attention all boys of rocket dreams! This sleek, silver rocket has landed! Great design, built with 100% top quality wood and "D" engine power are featured in this sporty, stylized spacecraft.

SPECS: Length: 25.0" (63.5 cm); Dia.: 2.50" (63.5 mm); Wt.: 5.0 oz (145 g); Max Altitude: 600 ft (182 m); Recovery: 18" (45 cm) Parachute; Recommended Engines: D12-3 (first flight), D12-5; Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately

GEMINI DC™ EST 2136

Twin parachutes are rear-ejected from the side pods on this stunning rocket. Nearly out of this world flights. Easy to build! A great filler! A unique rocket!

SPECS: Length: 21.5" (54.6 cm); Dia.: 0.976" (24.8 mm); Wt.: 3.4 oz (95 g); Recovery: Dual 12" (30 cm) Parachutes; Max Altitude: 800 feet (244 m); Recommended Engines: B4-2, B4-4, B6-2 (first flight), B6-4, C6-5

TORNADO™ EST 2004

The Tornado takes a different spin - when the ejection charge activates, the Tornado™ separates into two sections, each spinning, helicopter style to the ground!

SPECS: Length: 9.5" (24.1 cm); Dia.: 0.737" (18.7 mm); Wt.: 0.5 oz (13.9 g); Recovery: Two Piece Helicopter; Max. Altitude: 1670 ft (510 m); Recommended Engines: 1/2A6-2 (first flight), A8-3, B4-4, B6-4, B6-6

PYTHON™ EST 2129

The main air-to-air missile of the Estes Space Corps! High performance plastic fins and scale-like decals. Big "D" engine power!

SPECS: Length: 33.25" (84.5 cm); Dia.: 1.84" (47.0 mm); Wt.: 5.6 oz (160g); Recovery: 18" (45 cm) Parachute; Max. Altitude: 500 ft (152 m); Recommended Engines: D12-5 (first flight), D12-7; Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately

MANIAC™ EST 2091

You don't have to be crazy to love this mega-performing rocket - over 800 feet on "D" engines. One-piece fin unit and no painting makes this a no-fuss build!

SPECS: Length: 30.8" (78.3 cm); Dia.: 1.35" (34 mm); Wt.: 4.6 oz (130 g); Recovery: 12" (30 cm) Parachute; Max. Altitude: 800 ft (244 m); Recommended Engines: D12-5 (first flight), D12-7; With optional Quick Change Engine Mount (EST 303158) (not included); C5-3, C6-3; Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately

MEAN MACHINE™ EST 1295

Stand back from this beauty! Over six feet of rocket with kick-in-the-pants "D" power to boot. Its long, lean looks and great soaring flights makes this one of our most popular rockets.

SPECS: Length: 78.75" (200 cm); Dia.: 1.637" (41.6 mm); Wt.: 5.8 oz (164 g); Recovery: 24" (60 cm) Parachute; Max. Altitude: 600 ft (180 m); Recommended Engine: D12-5; Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately

EXPLORER SERIES



TWO
GLIDERS

**A.R.V.
CONDOR™**

**BULL PUP
12D™**



LIFTING BODY
GLIDER

SR-X™



NEW!

**D ENGINE
POWER!**

TWO STAGE FUN!

**LONG
SHOT™**



**BLACK
BRANT II™**



A.R.V. CONDOR™ EST 2075

Atmospheric research vehicle of the next century! At 4000 ft. the drone detaches to a gliding robot in Earth's Boomer spirit on a streamer!

SPECS: Booster Length: 18.5" (47.0 cm); Drone Length: 6.1" (15.5 cm); Booster Dia.: 0.972" (24.8 mm); Drone Wing-span: 10.75" (27.3 cm); Booster Wt.: 1.43 oz (40.8 g); Drone Wt.: 0.5 oz (14 g); Recovery: Drone: Glider; Booster: Streamer; Max. Altitude: 100 ft (30 m); Recommended Engines: B4-2 (first flight), B6-2, C5-3, C6-5



BULL PUP 12D™ EST 7000

Sport scale version of the USAF AGM-12D Bull Pup. Plastic tail cone and authentic color decal! Great first scale model!

SPECS: Length: 15.6" (39.7 cm); Dia.: 1.33" (33.7 mm); Wt.: 1.8 oz (50.9 g); Recovery: 12" (30 cm) Parachute; Max. Altitude: 675 ft (206 m); Recommended Engines: A8-3 (first flight), B4-4, B6-4, C6-5

SR-X™ EST 2115

Mysterious, sleek and dark -- the Estes Space Corps' Project Aurora. Uniquely shaped lifting body made from a two-piece aerofoam shell. Great performing glider!

SPECS: Length: 18.0" (45.7 cm); Wingspan: 11.5" (29.2 cm); Wt.: 6.6 oz (184.6 g); Recovery: Glider, Power Pod: 12" (30 cm) Parachute; Max. Altitude: 200 ft (61 m); Recommended Engines: B4-2 (first flight), B6-2, C5-3, C6-3

LONG SHOT™ EST 2120

Never bet against this rocket! Powerful two stage fun! A "D" booster/regular upper stage engine combo rips this rocket to 1300 feet. One-piece fin units make it a cinch to build.

SPECS: Length: 46.0" (117 cm); Dia.: 1.35" (34 mm); Wt.: 5.7 oz (161 g); Recovery: Streamer; Max Altitude: 1300 ft (400 m); Recommended Engines: Single Stage flights: C5-3 (first flight), C6-3; Two stage flights: Booster stage - D12-D; Second Stage - B6-6 (first flight), C6-7; Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) available separately.

BLACK BRANT II™ EST 1958

Beautiful 1/13 scale model of a Canadian research sounding missile used in the 1960's. High altitude flights on "D" engines. Great detailing!

SPECS: Length: 24.9" (63.2 cm); Dia.: 1.33" (33.7 mm); Wt.: 2.3 oz (64.8 g); Recovery: 18" (45 cm) Parachute; Max. Altitude: 1170 ft (360 m); Recommended Engines: D12-5 (first flight), D12-7

Challenge SERIES

Level 3 (Challenge™ Series)
Kits with challenging
construction techniques
and a high level of flying
enjoyment



SWING
WING
GLIDER!



THREE STAGES!



TOMCAT™



COMANCHE-3™



SR-71
BLACKBIRD™

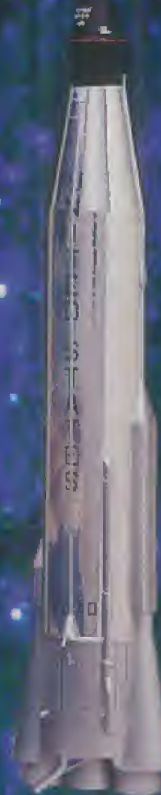
PHOENIX™

Masters SERIES

Level 4 (Masters™ Series)
These kits require a high degree
of modeling involvement from
building to painting to flying.



MERCURY
ATLAS™



GLIDING
ORBITER

SPACE
SHUTTLE™



LEVEL 3 (CHALLENGE™ SERIES)

COMANCHE-3™ EST 1382

When two stages simply are not enough, try booster A. O' first stage booster gets things going in a hurry. Estes' highest flying rocket roars to ultra high altitudes—over a half mile high!

SPECS: Length: 41.0" (104.3 cm); Dia.: 0.98" (24.8 mm); Wt.: 2.1 oz (58.9 g); **Recovery:** Streamer; **Max. Altitude:** 2660 ft (810 m); **Recommended Engines:** Single Stage flights: A6-3 (first flight), B4-4, B6-4, C6-5; Three Stage flights: Booster stage - D12-0, Second Stage B6-0 (first flight), C6-0; Third Stage: B6-6 (first flight), C6-7. Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately.

TOMCAT™ EST 2086

Fighter craft of the Estes Space Corps! Wings are tucked back for vertical rocket flight, then at apogee swing out for a gliding return.

SPECS: Length: 21.1" (53.7 cm); Wingspan-Swpt: 10.25" (26.0 cm); -Extended: 18.6" (47.3 cm); Wt.: 4.1 oz (115 g); **Recovery:** Glider; **Max. Altitude:** 300 ft (91.5 m); **Recommended Engines:** C5-3, C6-3 (first flight)

PHOENIX™ EST 1380

Huge 1/9 semi-scale model of the AIM-54 air-to-air Phoenix missile. Glad full color decal sheet! "D" powered for fantastic flights.

SPECS: Length: 30.0" (76.2 cm); Dia.: 2.60" (66 mm); Wt.: 6.6 oz (186.8 g); **Recovery:** 18" (45 cm) Parachute; **Max. Altitude:** 350 ft (106 m); **Recommended Engine:** D12-3 (first flight); Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately!

SR-71 BLACKBIRD™ EST 7003

Scale model of the fastest known jet in the world, ever after 30 years of service. Model features simulated "blackbird" skin details and plastic parts. Great looking model!

SPECS: Length: 19.0" (48.3 cm); Dia.: 0.98" (24.9 mm); Wt.: 3.2 oz (90.6 g); **Recovery:** 18" (45 cm) Parachute; **Max. Altitude:** 600 ft (183 m); **Recommended Engines:** B4-2 (first flight), B6-2, B6-4, C6-5

LEVEL 4 (MASTERS™ SERIES)

MERCURY ATLAS™ EST 2111

A highly detailed 1/35 scale model of the vehicle that put the first American in orbit. Injection and vacuum-formed plastic parts with simulated stainless steel body wraps. Requires removable stabilizer fins for flight.

SPECS: Length: 33.0" (83.8 cm); Dia.: 3.4" (86.1 mm); Wt.: 7.8 oz (220 g); **Recovery:** Capsule - 12" (30 cm) Parachute; Main body - 24" (60 cm) Parachute; **Max. Altitude:** 250 ft (76 m); **Recommended Engine:** D12-3. Requires a 3/16" (5 mm) Maxi™ launch rod (EST 302244) - available separately

SPACE SHUTTLE™ EST 1284

Accurately detailed in 1/162 scale of America's workhorse space vehicle. Orbiter features glide return, External Tank and SRB's return via chute. Requires removable stabilizer fins for flight.

SPECS: Total Length: 13.6" (34.5 cm); Wt.: 4.4 oz (124 g); **Orbiter Length:** 9.0" (22.9 cm); **Recovery:** Orbiter: Glider, SRB's/ET: 18" (45 cm) Parachute; **Max. Altitude:** 197 ft (60 m); **Recommended Engines:** C5-3 (first flight), C6-3



r/c glider

R/C Glider

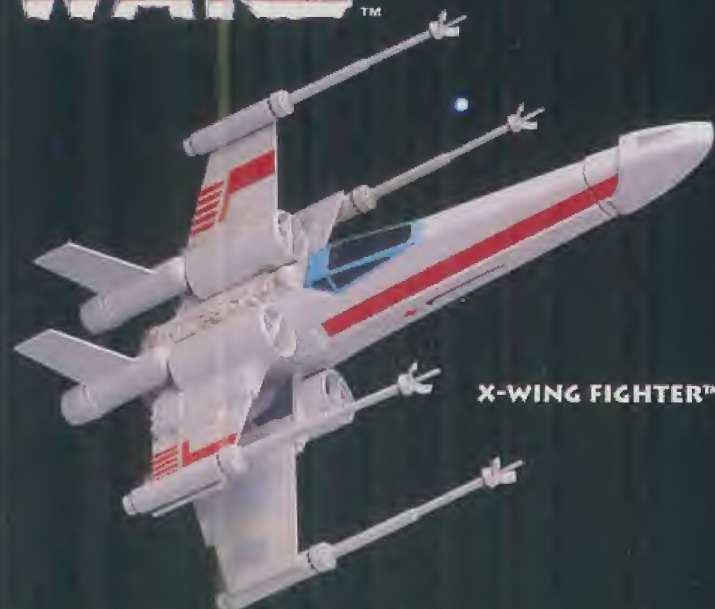
- Rocket-powered, radio-controlled sailplane
- Launch or boost vertically, then gently guide it towards a thermal

ROCKET-POWERED

OUTSTANDING SLOPE SOARER!

STAR WARS™

Star Wars Commemorative Series
You can fly with this epic space adventure! See page 66 for more exciting Star Wars products!



X-WING FIGHTER™



R2-D2™



TIE FIGHTER™

ESTES R/C GLIDERS

SWEET VEE™ EST 2116

R/C rocket powered glider for the experienced R/C flier. Also makes an outstanding slope soarer. Features blow-molded fuselage and pre-cut foam wing cores with pre-cut Obeche wood coverings. Kit comes complete with special plastic mechanical mixer. No need for complex computer radios or electronic mixing. Sweet Vee requires at least a two channel radio with mini, micro or mid-sized servos. (R/C equipment NOT included). R/C Building and Flying Experience Required.

SPECS: Length: 34 0" (86.4 cm); Wingspan: 55.0" (139.7 cm); Wing Area: 340 sq. in. (22 sq. m); Wt.: 16 - 20 oz (453 - 567 g); Max. Altitude: 148 ft (45 m); Recommended Engine: D11-P

THE CLASSIC COMMEMORATIVE SERIES OF Star Wars FLYING MODEL ROCKETS

X-WING FIGHTER™ EST 2103

Blast the Empire with this scale reproduction of the X-wing fighter. Features plastic molded fuselage and detail parts. Includes authentic decals!

Specs: Skill Level: 2; Length: 10.9" (27.6 cm); Wingspan: 8.9" (22.5 mm); Wt.: 3.5 oz (99.2g); Recovery: 12" (30 cm) Parachute; Max. Altitude: 300 ft (90 m); Recommended Engine: C6-3

R2-D2™ EST 2104

Fly your own version of the famous droid R2-D2. 1/5 scale kit includes many plastic parts and a detailed self-adhesive body wrapper.

Specs: Skill Level: 2; Length: 9" (22.8 cm); Dia.: 3.74" (95.1 mm); Wt.: 5.1 oz (145 g); Recovery: 18" (45 cm); Parachute; Max. Altitude: 300 ft (90 m); Recommended Engines: B6-2 (first flight), C6-3

TIE FIGHTER™ EST 2102

Attack the Rebel fleet with your own Imperial TIE fighter. Kit includes highly detailed plastic cockpit and fuselage with molded energy panels. This version requires a special recovery probe for atmospheric flight.

Specs: Skill Level: 3; Length: 5.4" (13.7 cm); Length with probe: 21" (53.2 cm); Wing Span: 5.0" (12.7 mm); Wt.: 3.6 oz (107.4 g); Recovery: 18" (45 cm); Parachute; Max. Altitude: 300 ft (90 m); Recommended Engine: C6-3

ESTES MODEL ROCKET ENGINES

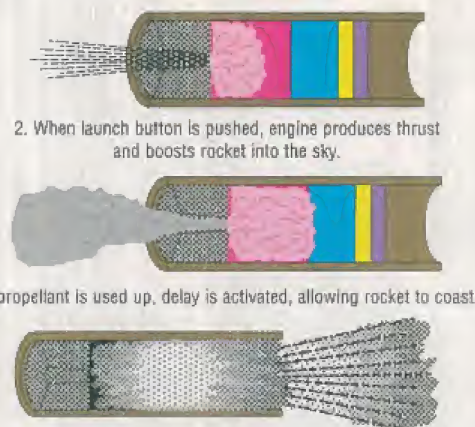
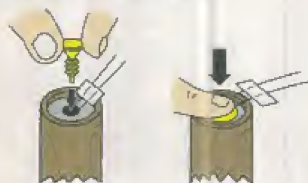
These are the famous model rocket engines that made model rocketry the safe hobby it is today. They incorporate a safe, intelligent design, manufactured under precise and strict engineering tolerances. Estes model rocket engines have been proven consistent and reliable in more than 300,000,000 launches. They are the key to the outstanding safety record model rocketry has achieved over the past 38 years.

- The concept of a factory assembled model rocket engine is the foundation of this safe, scientific and educational activity!
- 3% of all Estes engines are static-tested at the factory for reliability and adherence to performance specs.
- All engines comply with the codes of the National Fire Protection Association and are certified by the National Association of Rocketry.

HOW DOES A MODEL ROCKET ENGINE WORK?

1. Insert engine into rocket. Insert igniter and igniter plug into engine. Place rocket over launch rod on launch pad, hook igniter clips to igniter.
U.S. Patent Nr. 5,509,354

MAKE CERTAIN SAFETY KEY HAS BEEN REMOVED FROM CONTROLLER!



2. When launch button is pushed, engine produces thrust and boosts rocket into the sky.

3. After propellant is used up, delay is activated, allowing rocket to coast.

4. After delay, ejection charge is activated, deploying recovery system.

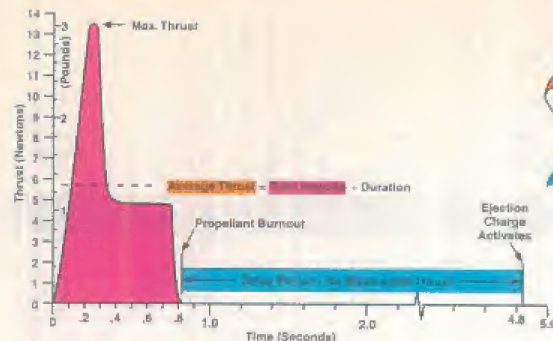
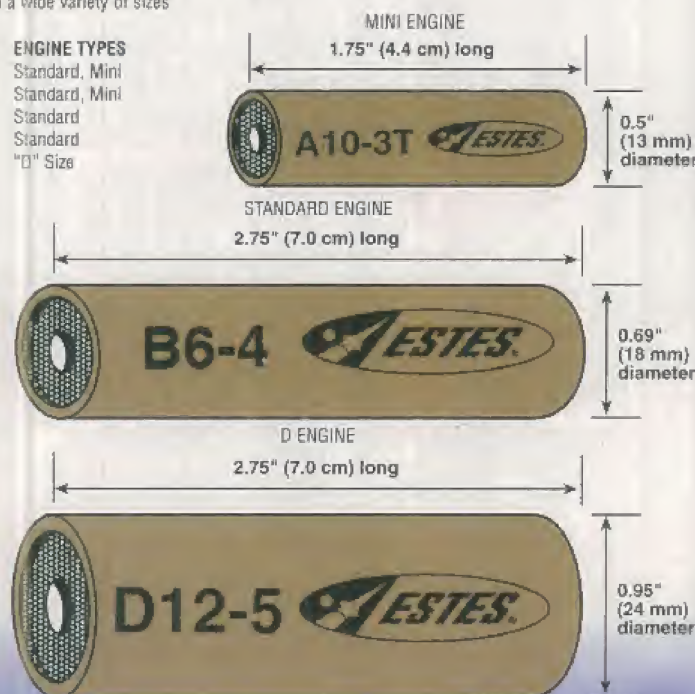
WHAT SIZES ARE AVAILABLE?

Estes engines are available in a wide variety of sizes and power levels:

TYPE	TOTAL IMPULSE	ENGINE TYPES
1/2A	0.626 - 1.25	Standard, Mini
A	1.26 - 2.50	Standard, Mini
B	2.51 - 5.00	Standard
C	5.01 - 10.00	Standard
D	10.01 - 20.00	"D" Size

WHAT DO THE DIFFERENT COLOR ENGINES MEAN?

Each type of engine is printed in a different color: Single stage engines are printed green. Upper Stage engines are printed purple. (Upper stage engines can be used as single stage engines in lightweight rockets.) Booster engines are printed red. (Booster engines contain no delay or ejection charge.) Plugged engines are printed black. (They are used for R/C gliders and contain no delay or ejection charge.)



Each engine has a letter-number-number code (e.g. B6-4)

Letter: B

Number: 6

Number: 4

TOTAL IMPULSE

Unit = Newton-seconds (N-sec)

This letter indicates the total power the engine produces. **Total Impulse** is measured in Newton-seconds. One Newton-second is the total impulse produced by one Newton of thrust for a duration of one second. A "B" engine (5 N-sec) can produce up to 5 newtons of thrust for 1 sec, 10 newtons for 1/2 sec or any combination that equals up to 5 N-sec. (1 N = 0.225 lbs.)

AVERAGE THRUST

Unit = Newton

This number tells you the **Average Thrust** of the engine during thrust phase. The actual thrust varies during engine burn. The propellant may burn quickly giving a higher average thrust or burn slowly for a lower average thrust. Generally, higher average thrust is best for heavier rockets, lower average thrust is usually more efficient for smaller, lighter rockets.

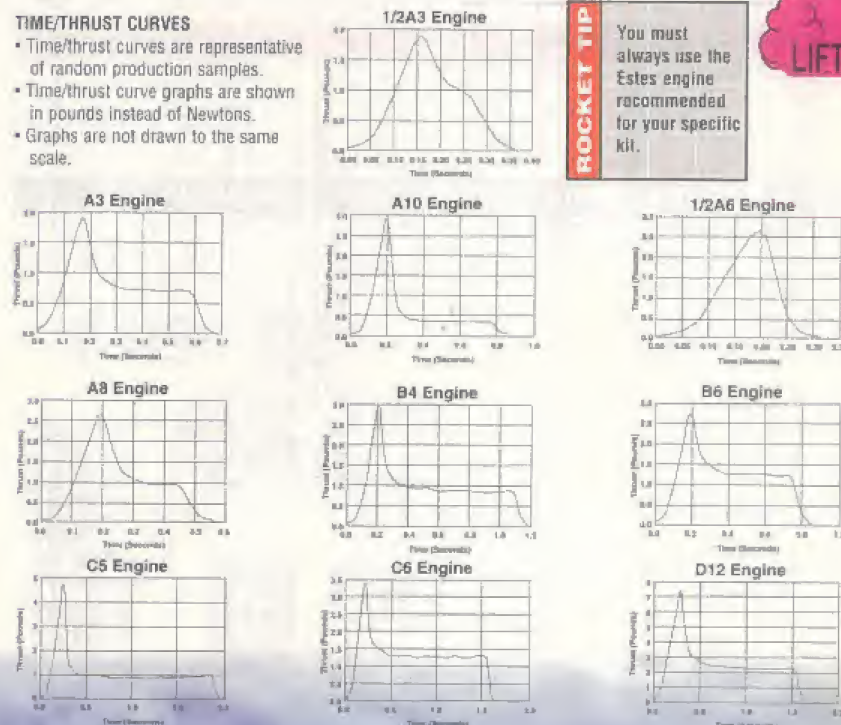
TIME DELAY

Unit = seconds

This number is the number of seconds between the end of the thrust phase and the activation of the ejection charge. The delay allows the rocket to coast to its peak altitude before the recovery system is deployed.

TIME/THRUST CURVES

- Time/thrust curves are representative of random production samples.
- Time/thrust curve graphs are shown in pounds instead of Newtons.
- Graphs are not drawn to the same scale.



LIFTOFF!

ENGINE CHART

- Delays have a tolerance of plus or minus 10% or 1 second, whichever is greater
- All Estes engines come complete with Igniters and patented Igniter Plugs (Pat.No 5,509,354). The Estes Igniter Plug makes engine ignition extremely reliable.
- Do not fly a rocket/engine combination whose maximum lift-off weight exceeds the recommended maximum lift-off weight.

Prod. No.	Engine Type	Total Impulse	Time Delay	Max. Lift Weight		Max. Thrust		Thrust Duration	Initial Weight		Propellant Weight	
		N-sec	Sec.	oz.	gm	Newtons	Lbs.	Sec.	oz.	gm	oz.	gm
SINGLE STAGE ENGINES (GREEN LABEL)												
1503	1/2A3-2T	1.25	2	2.0	57	8.3	1.9	0.3	0.20	5.6	0.06	1.75
1593	1/2A6-2	1.25	2	2.5	71	11.8	2.7	0.3	0.53	15.0	0.06	1.56
1507	A3-4T	2.50	4	2.0	57	8.5	1.9	0.6	0.27	7.6	0.12	3.50
1511	A10-3T	2.50	3	5.0	142	13.0	2.9	0.8	0.28	7.9	0.13	3.78
1598	A8-3	2.50	3	4.0	113	11.8	2.7	0.5	0.57	16.2	0.11	3.12
1601	B4-2	5.00	2	4.0	113	13.2	3.0	1.1	0.70	19.8	0.29	8.33
1602	B4-4	5.00	4	3.5	99	13.2	3.0	1.1	0.74	21.0	0.29	8.33
1605	B6-2	5.00	2	4.5	127	12.1	2.7	0.8	0.68	19.3	0.22	6.24
1606	B6-4	5.00	4	4.0	113	12.1	2.7	0.8	0.71	20.1	0.22	6.24
1617	C5-3	10.00	3	8.0	226	21.0	4.7	1.9	0.90	25.5	0.45	12.70
1613	C6-3	10.00	3	4.0	113	15.3	3.4	1.6	0.88	24.9	0.44	12.48
1614	C6-5	10.00	5	4.0	113	15.3	3.4	1.6	0.91	25.8	0.44	12.48
1666	D12-3	20.00	3	14.0	396	32.9	7.4	1.6	1.49	42.2	0.88	24.93
1667	D12-5	20.00	5	10.0	283	32.9	7.4	1.6	1.52	43.1	0.88	24.93
UPPER STAGE ENGINES (PURPLE LABEL)												
1504	1/2A3-4T	1.25	4	1.0	28	8.3	1.9	0.3	0.21	6.0	0.06	1.75
1607	B6-6	5.00	6	2.0	57	12.1	2.7	0.8	0.78	22.1	0.22	6.24
1615	C6-7	10.00	7	2.5	71	15.3	3.4	1.6	0.95	26.9	0.44	12.48
1668	D12-7	20.00	7	8.0	226	32.9	7.4	1.6	1.55	44.0	0.88	24.93
BOOSTER STAGE ENGINES (RED LABEL)												
1510	A10-0T	2.50	None	5.0	142	13.0	2.9	0.8	0.24	6.7	0.13	3.70
1608	B6-0	5.00	None	4.0	113	12.1	2.7	0.8	0.58	16.4	0.22	6.24
1616	C6-0	10.00	None	4.0	113	15.3	3.4	1.6	0.80	22.7	0.44	12.48
1665	D12-0	20.00	None	14.0	396	32.9	7.4	1.6	1.44	40.9	0.88	24.93
PLUGGED ENGINES -FOR USE WITH R/C ROCKET GLIDER (BLACK LABEL)												
1669	D11-P	20.00	None	16.0	453	27.6	6.2	1.82	1.55	44.0	0.88	24.93

The data listed above is from randomly chosen production samples.

NOTE: The "T" designates a mini engine.

FLIGHT ACCESSORIES

BLAST-OFF® FLIGHT PACK

EST 1572

Contains 24 engines, 24 igniter plugs, 30 igniters and a pack of recovery wadding. Engines include six each of the A8-3, B6-4, C6-3 and C6-5. Ideal way to have fun on a Saturday afternoon!

RECOVERY WADDING

EST 302274

Flame resistant wadding to protect your recovery system. Required in most Estes rockets. Contains 75 sheets - enough for about 18 - 25 flights!

IGNITERS

EST 302301

Dependable, easy-to-use Estes igniters in a convenient 6 pack. It is always a good idea to have few spares.



**BLAST-OFF®
FLIGHT PACK**

**RECOVERY
WADDING**

IGNITERS

LAUNCH ACCESSORIES

ELECTRON BEAM® LAUNCH CONTROLLER

EST 302220

Launch controller comes complete with safety key, continuity light, push button launch button, safety decals, 17 feet (5.2 m) of cable and micro-clips for igniter hook up. No assembly required! Requires four AA alkaline batteries (Not Included).



**ELECTRON BEAM®
LAUNCH CONTROLLER**

PORTA-PAD® II LAUNCH PAD

EST 302215

Sturdy, bright plastic tripod design with tilt adjustment (up to 30° from vertical). Easy to set up and take down - no tools required! Comes complete with blast deflector with standoff, two-piece 1/8" (3 mm) launch rod and safety cap and key. Porta-Pad® II can accommodate a 3/16" (5 mm) launch rod - (not included)

ELECTRON BEAM®/PORTA-PAD® II COMBO

EST 302218

Contains a complete Electron Beam® and Porta-Pad® II launch pad system. Requires four AA alkaline batteries (Not Included).

1/8" (3 MM) TWO-PIECE LAUNCH ROD

EST 302243

Replacement rod; ideal for most rockets.

3/16" (5 MM) TWO-PIECE MAXI™ LAUNCH ROD

EST 302244

Launch rod with extra strength and stiffness for larger rockets.

LAUNCH ROD SAFETY CAP AND KEY

EST 302205

Always keep an extra one handy!

BLAST DEFLECTOR WITH STANDOFF

EST 302241

Replaces that worn-out deflector.

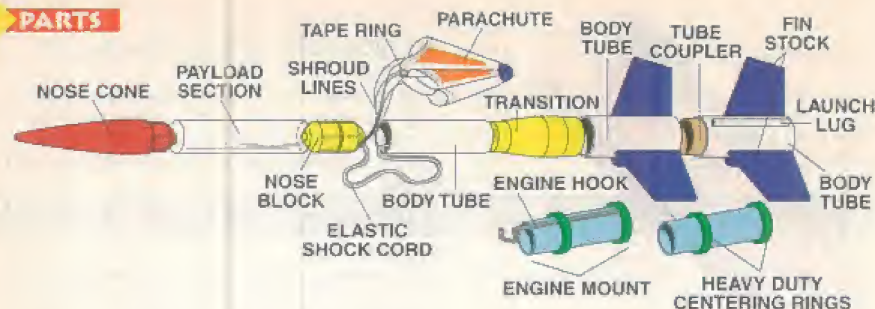


PORTA-PAD® II LAUNCH PAD

ROCKET TIP

You must use a launch pad and a launch controller to fly your model rockets. On this page, you will find all the equipment you need to fly your rockets safely.

PARTS



Model rocket kits are constructed of lightweight materials such as paper, balsa and plastic. The diagram above shows how parts fit together. Nearly all Estes parts that have the same series description number fit together. For instance, a BT-20 body tube will fit a NC-20 nose cone. An AR2050 centering ring will center a BT-20 into a BT-50.

BODY TUBES

High quality spiral wound paper tubes. Use tube couplers to connect tubes of the same diameter.

Four tubes per package with BT-5 & BT-20, three per package with BT-50, BT-55 & BT-60. Two per package in BT-80.

Product Number	Body Tube Size	Inside Dimension in./mm	Outside Dimension in./mm	Length in./cm
303084	BT-5	0.518/13.2	0.544/13.8	18.0/45.7
303085	BT-20	0.710/18.0	0.736/18.7	18.0/45.7
303086	BT-50	0.950/24.1	0.976/24.8	18.0/45.7
303087	BT-55	1.283/32.6	1.325/33.7	18.0/45.7
303088	BT-56	1.304/33.1	1.346/34.2	18.0/45.7
303089	BT-60	1.595/40.5	1.637/41.6	18.0/45.7
303090	BT-80	2.588/65.7	2.600/65.7	14.2/36.1

SMALL TUBE COUPLERS

EST 302297

Two couplers each for BT-5, BT-20 and BT-50.

LARGE TUBE COUPLERS

EST 303196

Two couplers for BT-55, BT-56 and BT-60; One for BT-80.

NOSE CONE ASSORTMENTS

Each package of nose cones contains a variety of shapes. Some are one piece, others two-piece. All have eyelets for shock cord and shroud line attachments.

NC-5 Nose Cone Assortment

EST 303160

Five cones per pack

NC-20 Nose Cone Assortment

EST 303161

Five cones per pack

NC-50 Nose Cone Assortment

EST 303162

Five cones per pack

NC-55 Nose Cone Assortment

EST 303163

Four cones per pack

NC-56 Nose Cone Assortment

EST 303164

Four cones per pack
Same cone shape,
different colors.

NC-60A Nose Cone Assortment

EST 303165

Two cones per pack
Big Bertha™ and Bailout™ style.

NC-60B Nose Cone Assortment

EST 303166

Two cones per pack
Mean Machine™ and Tomcat™ (with-out canopy) style

NC-80A Nose Cone

EST 303167

One cone per pack
Phoenix™ style

NC-80B Nose Cone

EST 303168

One cone per pack
Fat Boy™ style

RECOVERY SYSTEM KITS

PLASTIC PARACHUTES

Colorful chutes complete with tape rings, shroud lines, snap swivel (for quick changes) and instructions.

Product No.	Parachute Diameter
EST 302264	12" (30 cm)
EST 302267	18" (45 cm)
EST 302271	24" (60 cm)

NYLON PARACHUTES

Red, ripstop nylon chutes, pre-assembled. Fits rockets with a BT-60 (1.6" or 42 mm) or greater body tube.

Product No.	Parachute Diameter
EST 302260	18" (45 cm)
EST 302261	24" (60 cm)

STREAMER KITS

EST 302275

Contains two different types of streamer material: One 2" X 90" (5 cm X 230 cm) red crepe paper and two 1.75" X 36" (4.5 cm X 91 cm) metalized plastic streamers (One gold, one red). Comes complete with snap swivels.

SHOCK CORDS AND MOUNT PACK

EST 302278

Contains two 1/8" X 18" (3 X 450 mm), and one 1/4" X 36" (6 mm X 910 mm) elastic shock cords (enough for four shock cords). Includes mounts and instructions.

ENGINE MOUNT KITS

Engine mounts for conversions and original designs. Easy to assemble with complete instructions. Each kit has enough parts for two complete mounts.

MINI-ENGINE MOUNT

EST 303157

Fits BT-20 tubes. Also can be used to fly lightweight standard engine kits with mini-engines.

STANDARD ENGINE MOUNT

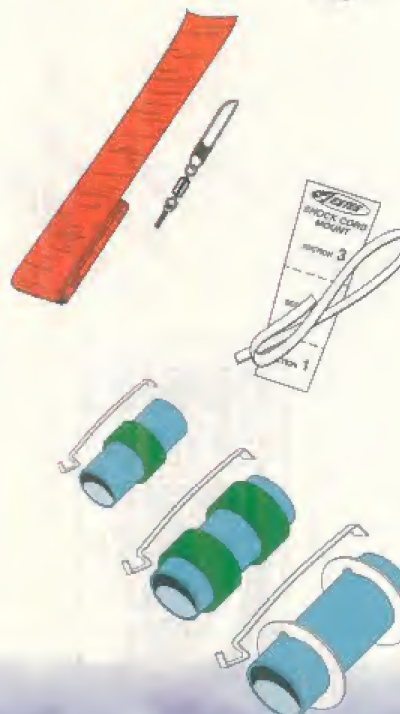
EST 303158

Fits BT-50, 55, 56 & 60 tubes. Plus can be used to make a conversion mount for lightweight D powered rockets.

D ENGINE MOUNT KIT

EST 303159

Heavy duty engine mounts for D engines. Fits BT-55, 60 and 80 tubes.





1997 CATALOG PRICE LIST

Items are listed in part number sequence



Prod. No.	Description	Sugg. Retail	Prod. No.	Description	Sugg. Retail	Prod. No.	Description	Sugg. Retail
ESTES® MODEL ROCKETRY PRODUCTS								
0801	Mosquito™	\$3.19	1769	March-12™ Bulk Pack (12 Pack)	119.99	2811	Model Rocket Launch Systems	1.05
0802	Quar™	3.49	1770	Venom™ Bulk Pack (12 Pack)	69.99	2815	Model Rocket Contest Guide	1.30
0834	X-Flay™	5.49	1771	Ornid™ Bulk Pack (12 Pack)	109.99	2817	Guide for Aerospace Clubs	1.30
0835	Nike Arrow™	5.99	1780	1/2A3-2T Engines Bulk Pack (24 Pack)	27.39	2819	Model Rocketry Technical Manual	0.90
0882	Nirja®	5.09	1781	A8-3 Engines Bulk Pack (24 Pack)	37.99	2820	Alpha® Book of Model Rocketry	1.30
0886	Gnome™	5.29	1783	B6-4 Engines Bulk Pack (24 Pack)	38.89	2821	Laws of Motion & Model Rocketry	0.85
1225	Alpha®	8.09	1784	B6-0B6-6 Eng. Bulk Pack (12 each per Pack)	38.89	2824	Flight Data Sheets	0.10
1256	Alpha II®	9.99	1785	C5-3 Engines Bulk Pack (24 Pack)	43.29	2831	Projects in Model Rocketry	1.05
1284	Space Shuttle™	27.59	1917	Zinger™	5.09	2841	Model Rocketry Study Guide	1.75
1292	Wizard™	5.09	1948	Big Bertha™	11.89	2842	Altitude Prediction Charts	2.40
1295	Mean Machine™	23.29	1949	Viking™	4.79	2843	Aerodynamic Drag of Model Rockets	2.40
1327	Astrocarr® 110 (Made in China)	30.69	1968	Black Brant II™	14.19	2844	Elementary Math of Model Rocketry Flight	1.00
1360	Phoenix™	24.39	1969	Nova Payloader™	10.59	2845	The Classic Collection Curriculum	4.15
1381	Yankee™	5.09	1986	Reliant™	4.79	2847	Science & Model Rockets Curriculum	3.65
1382	Comanche-3™	14.79	2004	Tornado™	5.09	2848	Physics & Model Rockets Curriculum	3.65
1406	Alpha II® Starter Set	31.79	2006	Yellow Jacket™	8.99	2849	Mathematics & Model Rockets Curriculum	3.65
1410	Altwerker™ Starter Set	32.89	2026	Athena™	10.59	2850	Industrial Technology & Model Rockets Curriculum	3.65
1449	Super Shoi™ Starter Set	34.99	2060	Rampage™	10.99	2851	Aviation & Light Gliders Curriculum	3.65
1456	Estes Teacher's Starter Set	38.95	2070	Ball-Out™	15.59	7000	Bull Pup 120™	9.99
1453	Designer's Special™	44.09	2075	A.R.V. Condor™	13.29	7003	SR-71 Blackbird™	17.99
1465	HellCat™ Starter Set	33.89	2077	Sky Winder™	16.69	9025	Introduction to Model Rocketry (Apple)	11.90
1467	Space Shuttle™ Starter Set	36.99	2078	Ornid™	15.89	9026	Aerodynamics of Model Rocketry (Apple)	23.95
1473	Satire™ Starter Set	29.99	2086	Torncat™	17.99			
1503	1/2A3-2T Engines (4 pack)	4.79	2091	Marillac™	14.79			
1504	1/2A3-4T Engines (4 pack)	4.79	2092	Mongoose™	9.99			
1507	A3-4T Engines (4 pack)	4.79	2096	Turbo Copier™	9.99			
1510	A10-0T Engines (4 pack)	4.79						
1511	A10-3T Engines (4 pack)	4.79						

PARTS

PAYLOAD SECTION KITS

Payload Section PS-20 & PS-50/55
EST 303194

Complete with two clear payload sections (BT-20 and BT-50 size). Fits BT-20 and BT-50-sized rockets — 0.74" (18.7 mm) and 0.98" (24.8 mm) diameters plus includes a transition section to fit the BT-50 sized clear tube onto a BT-55 (1.33" or 33.7 mm) body tube. Kit includes plastic bulkheads and instructions. Nose cones not included!

Payload Section PS-55/60

EST 303195

Large BT-60 (1.6" or 40 mm) clear tube to fit BT-55 and BT-60 size rockets. Complete with bulkheads, transitions and nose cone.

DOWELS, FIN STOCK & PATTERNS PACK

EST 303193

Includes three different sheets of balsa:

- 3" X 12" X 3/32" (75 mm X 305 mm X 2 mm)
- 3" X 12" X 1/8" (75 mm X 305 mm X 3 mm)
- 3" X 12" X 3/16" (75 mm X 305 mm X 3.5 mm);

and two different dowel stock:

- 1/12" X 12" (2 mm X 305 mm)
- 1/8" X 12" (3 mm X 305 mm);

and includes pattern sheets containing many popular fin shapes.

CENTERING RING PACK

EST 302296

Heavy duty centering rings for centering tubes in other tubes or for making custom engine mounts. Includes rings that center BT-5 in BT-20 (six each), BT-20 in BT-50 (12 each) and BT-50 in BT-55 (six each).

FLAT CENTERING RING PACK

EST 302295

Die-cut card stock rings for centering tubes in other tubes or for making custom engine mounts. Includes instructions and pattern sheet to make paper shrouds for transitions and boat tails. Rings will center BT-20 in BT-50, 55, 56 and 60 and BT-50 centered in BT-60 and BT-80.

ENGINE HOOK PACK

EST 303143

Hooks for engine mounts - Fits mini-engines (one each), regular and D engines (three each) and 3-1/2" long hooks for special applications (two each). Includes spacer for long engine hooks.

LAUNCH LUG PACK

EST 302320

Contains eight 1/8" (3 mm), four 3/16" (5 mm) and two 1/4" (6 mm) launch lugs.

DECALS

Apply these boldly colored decals anywhere — on rockets, model cars, airplanes, notebooks, etc.

Assortment 1

EST 302995

Water transferable decals with US Flags, military "Stars and Bars", letters and numbers plus more!

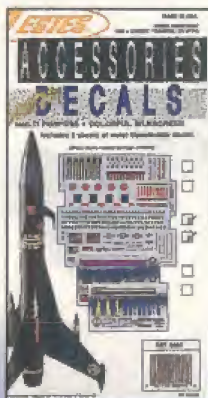
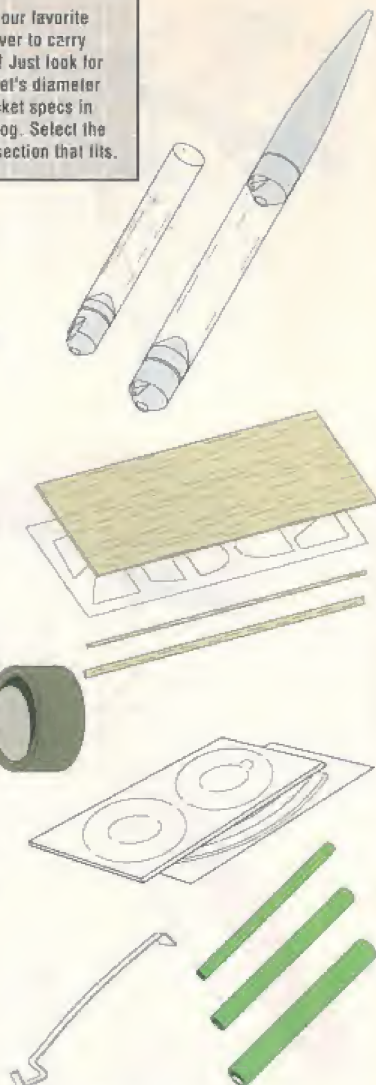
Assortment 2

EST 302996

Self-adhesive chrome foil decals with hatches, cockpits and more!

ROCKET TIP

Convert your favorite rockets over to carry payloads! Just look for your rocket's diameter in the rocket specs in this catalog. Select the payload section that fits.



Prod. No.	Description	Sugg. Retail
302267	Parachute 18"	3.69
302271	Parachute 24"	4.59
302274	Recovery Wadding	2.99
302275	Streamer Kit	5.79
302278	Shock Cords & Mount Pack	2.29
302295	Flat Centering Rings Pack	6.99
302296	Heavy Duty Centering Rings Pack	4.19
302297	Small Tube Coupler Pack	2.79
302301	Model Rocket Igniters (6 Pack)	2.99
302320	Launch Lug Pack	3.19
302995	Decal Pack	2.29
302996	Decal Pack	2.29
303084	BT-5 Body Tubes (4)	3.19
303085	BT-20 Body Tubes (4)	3.79
303086	BT-50 Body Tubes (3)	3.69
303087	BT-55 Body Tubes (3)	4.59
303088	BT-56 Body Tubes (3)	4.59
303089	BT-60 Body Tubes (3)	4.99
303090	BT-80 Body Tubes (2)	4.99
303143	Engine Hook Accessory Pack	3.49
303157	Mini-Engine Mount Kit	3.79
303158	Regular Engine Mount Kit	4.69
303159	D Engine Mount Kit	5.79
303160	NC-5 Nose Cone (5 Pack)	4.29
303161	NC-20 Nose Cone (5 Pack)	4.49
303162	NC-50 Nose Cone (5 Pack)	4.49
303163	NC-55 Nose Cone (4 Pack)	5.29
303164	NC-56 Nose Cone (4 Pack)	4.59
303165	NC-60a Nose Cone (2 Pack)	4.59
303166	NC-60b Nose Cone (2 Pack)	4.59
303167	NC-80a Nose Cone (1 Pack)	3.99
303168	NC-80b Nose Cone (1 Pack)	3.99
303193	Dowel, Fin Stock & Patterns Pack	4.99
303194	Payload Section PS-20 & PS-50/55	4.99
303195	Payload Section PS-55/60	4.99
303196	Large Tube Coupler Pack	4.69
COX® MODEL PRODUCTS		
C00130	Tee Dee® .010	59.99
C00150	Black Widow .049	34.99
C00160	Tee Dee® .020	54.99
C00170	Tee Dee® .049	54.99
C00200	Tee Dee® .051	54.99
C00210	Tee Dee® .09	59.99
C00211	Tee Dee® R/C .09 (w/Throttle & Muffler)	99.99
C00330	6.6 V Battery & Charger	39.99
C00340	Killer Bee .049	37.99
C00350	Babe Bee .049	29.99
C00405	Basic Starting Kit	11.99
C00885	Deluxe Starting Kit	21.99
C04040	E-Z Flyer® Thunderbolt	41.99
C04050	E-Z Flyer® Firebird	41.99
C04060	E-Z Flyer® Aerobal 150	41.99
C04070	E-Z Flyer® Cessna Skymaster	41.99
C04080	E-Z Flyer® Piper Comanche	41.99
C04300	Air Rescue™	48.99
C04351	Air Rescue™ w/Mini Starting Kit	59.99
C04500	Attack Cobra	57.99
C04506	Texaco .049	34.99
C04561	Attack Cobra w/Mini Starting Kit	68.99
C04800	Sky Jumper®	57.99
C05400	ME-109 Stunter™	57.99
C05600	Crusader Stunt Plane	57.99
C05700	PT-19 Trainer™	49.99
C05781	PT-19 Trainer™ w/Mini Starting Kit	60.99
C06010	E-Z Flyer® Formula One	41.99
C06030	Backdraft™	59.99
C06040	Slipstream™	59.99
C06050	Apache Helicopter	59.99

Prod. No.	Description	Sugg. Retail
C07400	Cessna (Made in China)	6.99
C07410	Cessna Classic (Made in China)	11.99
C07420	Piper (Made in China)	6.99
C07430	Piper Cruiser (Made in China)	11.99
C09000	Corsair w/Mini Starting Kit	50.99
C09100	Strike®	62.99
C09161	Strike® w/Mini Starting Kit	73.99
C09200	Nitro Cat™	169.99
C09261	Nitro Cat™ w/Mini Starting Kit	180.99
C09500	Sky Pirate	64.99
C09501	F8F Bearcat™ w/o Battery & charger	49.99
C09561	F8F Bearcat™ w/Battery & charger	79.99
C09800	AT-6 Texan™	41.99
C09861	AT-6 Texan™ w/Mini Starting Kit	52.99
C90445	Flyboy™ w/1 Ch. Radio 27 MHz	199.99
C90446	R/C Flyer™ w/1 Ch. Radio 27 MHz	199.99
C90450	Lazy Bee™ w/2 Ch. Radio 27 MHz	289.99
C90469	Sky Bird w/2 Ch. Radio 27 MHz	357.99
C90476	E-Z Bee® II w/Cobra 2 Ch. Radio 27 MHz	329.99
C90478	Sky Bird w/2 Ch. Radio 27 MHz	279.99
C90480	E-Z Bee® Sport w/1 Ch. Radio 27 MHz	251.99
LIGHT GLIDERS		
4000	Hi-Lite® Light Glider (Made in Korea)	5.79
4001	Phantom™ Light Glider (Made in Korea)	6.89
4002	Mirage™ Light Glider (Made in Korea)	9.49
4003	Flight Master® Light Glider (Made in Korea)	10.59
4004	Cyclone™ Light Glider (Made in Korea)	11.99
4005	Whirlwind™ Light Glider (Made in Korea)	5.79
WEST WINGS		
5000	C-130 Hercules™	5.99
5001	F-16 Falcon™	5.99
5004	Spaca Shuttle™	5.99
5005	F-14 Tomcat™	5.99
5006	Tornado™	5.99
5007	F-18 Hornet™	5.99
5008	F-111 Aardvark™ Catapult Glider	7.99
5009	F-15 Eagle™ Catapult Glider	7.99
Star Wars™		
1490	X-wing Starter Set	36.99
1491	A-wing Starter Set	36.99
1492	Y-wing Starter Set	36.99
1493	Death Star Starter Set	36.99
2142	R2-D2	16.99
2143	Death Star	16.99
2144	Vader's TIE fighter	16.99
2146	Millennium Falcon	TBD*
2147	Star Destroyer	TBD*
2148	Shuttle Tydirium	TBD*
NCR3540	X-wing fighter	99.99
5020	Star Destroyer Catapult Glider	8.49
5021	A-wing fighter Catapult Glider	8.49
5022	X-wing fighter	6.49
5023	Y-wing fighter	6.49
STE6760	X-wing fighter Control Line	24.99
STE6761	Y-wing fighter Control Line	24.99
C09310	X-wing Control Line	59.99
C09320	Snowspeeder Control Line	59.99
C09330	Vader's TIE fighter Control Line	59.99
C09410	TIE fighter/X-wing fighter Combat Set	99.99
C09420	Death Star Battle Station R/C	149.99
C09430	Landspeeder R/C	99.99

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*TBD = To be determined.

Prices are subject to change without notice.

(1-97) 906352

ROCKET BUILDER'S MARKING GUIDE™

EST 302227

Easy way to mark fin and launch lug placement lines. Fits all current Estes body tubes. Marks fins at 90° and 120° apart. The angled ruler measures metric and inches. A pencil holder to mark tube circumferences and a fin gluing jig are also included. Molded out of durable plastic. A must for any rocket builder!

FIN ALIGNMENT GUIDE™

EST 302231

Allows you to position and glue 3/32" (2 mm) and 1/8" (3 mm) thick fins quickly and easily. Designed to fit all current Estes body tubes, aligning fins at 90° and 120°. Molded out of durable plastic.

DESIGNER'S SPECIAL™

EST 1463

Design and build your own rockets! Contains nose cones and body tubes for BT-5, BT-20, BT-50, BT-55 and BT-60 designs. Also contains parachute and streamer kits, engine mounts, launch lugs, fin stock, tube couplers, centering rings and much more!

EMERGENCY REPAIR KIT

EST 302233

Contains many things you need on the launch pad or to make field repairs on your rockets. Comes in a handy reclosable pouch. Contains: Shock cord mounts, tape rings, safety key, recovery wadding, 12" (30 cm) parachute kit, shroud line, launch lugs, shock cords, launch rod safety cap and more!

ALTITRAK™

EST 302232

How high did it really go? Next time, measure it with this easy to use device. Follow the rocket in the sights to apogee, release the trigger to lock the reading. Easy-to-read display gives you your altitude in meters along with the elevation angle. Use two Altitraks for greater accuracy. Great for school and science projects!

TRANSROC II™ ROCKET LOCATOR

EST 2237

On-board sonic unit fits any BT-20 (3/4" or 18 mm) or larger body tube. Unit emits high pitched tone to aid in recovery. Use the directional locating device with the included headphones to make finding your rocket easier. Requires one 9 volt battery and one 6 volt (type 2CR1/3N) battery -- NOT INCLUDED



1999	1/2-A0-2 Engines (3 pack)	4.79	2102	Star Wars TIE fighter™ Commemorative	24.39	9027	Physics of Model Rocketry (Apple)	11.90
1598	AB-3 Engines (3 pack)	4.79	2103	Star Wars X-wing fighter™ Commemorative	18.99	9028	AstroCad™ (Apple)	9.50
1601	B4-2 Engines (3 pack)	5.09	2104	Star Wars R2-D2™ Commemorative	28.59	9036	Physics of Model Rocketry (IBM)	11.90
1602	B4-4 Engines (3 pack)	5.09	2105	Hijax™	13.79	9037	AstroCad™ (IBM)	9.50
1605	B6-2 Engines (3 pack)	5.09	2106	Fire Streak™	11.89	9038	Introduction to Model Rocketry (IBM)	11.90
1606	B6-4 Engines (3 pack)	5.09	2107	Mercury Atlas™	50.89	9039	Aerodynamics of Model Rocketry (IBM)	23.85
1607	B6-6 Engines (3 pack)	5.09	2111	Trans Wing™ Super Glider	17.99	9040	AstroCad™ (Mac)	9.50
1608	B6-0 Engines (3 pack)	5.09	2112	Coruscator™	26.49	9041	Introduction to Model Rocketry (Mac)	11.90
1614	C6-5 Engines (3 pack)	5.69	2114	Sweet Vae™ R/C Rocket Glider	106.99	9042	Aerodynamics of Model Rocketry (Mac)	23.85
1615	C6-7 Engines (3 pack)	5.69	2115	F-117 Nighthawk™ - not available	11.99	9043	Physics of Model Rocketry (Mac)	11.90
1616	C6-0 Engines (3 pack)	5.69	2116	Venus Probe™	7.99	9052	Assortment of 9041, 9042 & 9043 (Aea, Mac)	178.00
1617	C5-3 Engines (3 pack)	5.69	2117	Raiders™ - not available	11.99	9053	Assortment of 9036, 9038 & 9039 (Aea, IBM)	178.00
1655	D12-0 Engines (3 pack)	8.79	2122	Sizzler™	12.99	302205	Porta-Pad® II Launch Pad	1.79
1666	D12-3 Engines (3 pack)	8.79	2123	Longshot™	19.99	302215	Electron Beam®/Porta-Pad® II Combo	31.79
1667	D12-5 Engines (3 pack)	8.79	2124	Python™	16.99	302220	Electron Beam® Launcher (Made in Mexico)	22.29
1668	D12-7 Engines (3 pack)	8.79	2125	Mach-12™	14.99	302227	Rocket Builder's Marking Guide	5.79
1669	D11-P Engines (3 pack)	8.79	2131	Mk-109 Slingray™	9.99	302231	Fin Alignment Guide™	19.69
1672	Blast-Off® Flight Pack	35.99	2132	Banshee™	9.99	302232	AlliTrak™	18.89
1750	Gnome™ Bulk Pack (12 Pack)	36.89	2133	AstroSat LSX™	13.99	302233	Emergency Repair Kit	7.59
1751	Alpha III® Bulk Pack (12 Pack)	72.29	2136	Gemini DC™	11.99	302241	Blast Deflector Plate	3.59
1752	Bandit™ Bulk Pack (12 Pack)	87.69	2137	Flash™	10.99	302243	1/8" Two-Piece Launch Rod	5.29
1754	Wizard™ Bulk Pack (12 Pack)	41.09	2138	Firebird™	10.99	302244	3/16" Two-Piece Maxi™ Launch Rod	6.69
1755	Viking™ Bulk Pack (12 Pack)	34.09	2141	Silver Comet™	19.99	302260	18" Nylon Parachute (Made in China)	5.99
1756	Alpha® Bulk Pack (12 Pack)	62.29	2145	Star Booster™	TBD*	302261	24" Nylon Parachute (Made in China)	5.99
1757	Nova Payloader™ Bulk Pack (12 Pack)	103.99	2237	Transroc II™ Rocket Locator				
1758	Tornado™ Bulk Pack (12 Pack)	36.99						
1760	Loadstar™ Bulk Pack (12 Pack)	138.29						
1764	Genetic EZX® Bulk Pack (12 Pack)	67.09						
1765	Performance™ Bulk Pack (12 Pack)	93.99						
1767	Bull Pup 12D™ Bulk Pack (12 Pack)	91.99						

WARE

ur knowledge of model rocketry!

AD™

program for basic model rocket performance
uch as: Apogee Determination, Drag and
ce Prediction, Flight Simulation, Rocket Design,
ic Stability, Optimum Weight and Elliptical fin
titten by Michael Gasperi

EST 9028
EST 9040
EST 9037

ut the principles of aerodynamics, physics and
it with these three programs.

S OF MODEL ROCKETRY™

tion; reaction; inertia; momentum; acceleration;
aging and satellites.

EST 9027
EST 9043
EST 9036

AERODYNAMICS OF ROCKETS™

tes; aerodynamics; stability; drag; center of
ter of pressure.

EST 9026
EST 9042
EST 9039

CH OF SPACE - INTRODUCTION EL ROCKETRY™

ht profile; parts; engine and classification; safety
onus program on multi-staging and igniter
and function.

EST 9025
EST 9041
EST 9038

oftware, see the Estes Educator Catalog.



PUBLICATIONS

Model Rocketry Technical Manual EST 2819
Guide for construction and flying of model rockets. Tips
for scratch building, launch systems, tracking, staging,
boost gliders and more.

Alpha Book Of Model Rocketry EST 2820
Information packed guide for beginners

The Laws Of Motion and Model Rocketry . . . EST 2821
The three laws of motion are explored in easily
understood terms. Includes simple experiments.

Estes Guide For Aerospace Clubs EST 2817
Source book for organizing and operating a model rocket
club.

Model Rocket Contest Guide EST 2815
A primer on model rocket contests with details and
suggestions on organizing events.

Events Score Sheets EST 2825
A perfect way to keep track of contest events.

Projects In Model Rocketry EST 2831
Suggestions on how to plan, prepare and present model
rocket research projects.

The Classic Collection EST 2845
A comprehensive collection of classic technical reports
about tracking to boost gliders.

Model Rocketry Study Guide (TR-8) EST 2841
A logical program for those who want the most from
model rocketry. Guides a beginner on the path to become
an expert.

Flight Data Sheets EST 2824
Log in all the data about your flights.

Altitude Prediction Charts (TR-10) EST 2842
A simple method of predicting altitude by taking drag
effects into account.

**Aerodynamic Drag Of
Model Rockets (TR-11)** EST 2843
A detailed explanation of drag and its effects on model
rockets, written by one of the top aerodynamicist in the
country.

**Elementary Mathematics of
Model Rocket Flight** EST 2844
Information on how to make your own altitude tracker and
calculate speed and acceleration.

Model Rocket Launch Systems EST 2811
How electrical launch systems work. Complete with
graphs and schematics.

For additional publications, see the Estes Educator
Catalog.



ESTES EDUCATOR™



GENERIC E2X®

ECONOMICAL
FOR LARGE
GROUPS



PERFORMANCE™

Many schools, clubs, and summer camps use model rocketry.
Discover this enriching, hands-on educational tool for your own
class, club or camp. Model rocket bulk packs and curricula
make it easy. For more details and information on our model
rocket educational supplies see our Estes Educator Catalog. See
your local hobby retailer for more details or write to:
Estes Industries, Attn.: Educational Services,
1295 H Street, Penrose, CO 81240.

CURRICULA

Science and Model Rocketry™ EST 2847
(For grades 5, 6, 7 & 8)

Physics and Model Rockets™ EST 2848
(For grades 8, 9, 10, 11)

Mathematics and Model Rockets™ EST 2849
(For grades 5-12)

Industrial Technology and Model Rockets™ . . . EST 2850
(For grades 5-12)

Aviation And Light Gliders™ EST 2851
(For Grades 2, 3 & 4 and up) - Use with Estes Light Gliders.

BULK PACKS

12 rockets per pack, complete with 12 sets of instructions and
extra parts. See Estes Educator Catalog for more details.

ALMOST READY TO FLY (E2X® SERIES)

Gnome™ Bulk Pack (See page 11
for rocket description) EST 1750

Alpha III® Bulk Pack (See page 11
for rocket description) EST 1751

Bandit™ Bulk Pack (See page 9)
for rocket description) EST 1752

Generic E2X® Bulk Pack (pictured at left) . . . EST 1754

X-Ray™ Bulk Pack (See page 13
for rocket description) EST 1768

Mach-12™ Bulk Pack (See page 13
for rocket description) EST 1769

Omloid™ Bulk Pack (See page 13
for rocket description) EST 1771

SKILL LEVEL 1 (BETA™ SERIES)

Wizard™ Bulk Pack (See page 15
for rocket description) EST 1754

Viking™ Bulk Pack (See page 21
for rocket description) EST 1755

Alpha® Bulk Pack (See page 17
for rocket description) EST 1756

Nova Payloader™ Bulk Pack (See page 17
for rocket description) EST 1757

Performance™ Bulk Pack (pictured at left) . . . EST 1765

Venom™ Bulk Pack (See page 19
for rocket description) EST 1770

For more details, see the Estes Educator Catalog.

EL 2 (EXPLORER™ SERIES)

Bulk Pack (See page 25 t description)	EST 1758
Bulk Pack (Pictured)	EST 1760
2D™ Bulk Pack (See page 27 t description)	EST 1767

ROCKET ENGINE BULK PACKS

1 engines and igniter plugs, 30 igniters and a recovery wadding (enough for 25 flights).

ulk Pack	EST 1780
ack	EST 1781
ack	EST 1783
Bulk Pack	EST 1784
ack	EST 1785
32-34 for additional engine information)	

EACHER'S I SET

Generic E2X® rocket
ady-To-Fly) and an Alpha®
I Level 1).

Beam® Launch Controller
id® II Launch Pad
ndpaper and razor blade
recovery wadding,
and plugs — enough
unches
and Youth Group
Guide, Science and
plications plus more!



ONE YEAR WARRANTY

product is warranted against defects in materials or workmanship for one year from the date of the original ny Estes product, except computer software, which, because of a manufacturing mistake, malfunctions or a defective within the one-year warranty period will be repaired or replaced, at Estes' option and at no charge ided it is returned to Estes with proof of purchase.

ty does not cover incidental or consequential damage to persons or property caused by the use, abuse, re to comply with operating instructions or improper storage of the warranted product. Some states do not clusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

ty gives you specific legal rights and you may also have other rights which vary from state to state.

r replacement under this warranty, please return the defective part of your Estes product with proof of
Estes Industries, Customer Service Department, 1295 H Street, P.O. Box 227, Penrose, CO 81240-0227



1. Materials--My model rocket will be made of light-weight materials such as paper, wood, rubber, and plastic suitable for the power used and the performance of my model rocket. I will not use any metal for the nose cone, body, or fins of a model rocket.

2. Motors/Engines--I will use only commercially-made NAR certified model rocket engines in the manner recommended by the manufacturer. I will not alter the model rocket engine, its parts, or its ingredients in any way.

3. Recovery--I will always use a recovery system in my model rocket that will return it safely to the ground so it may be flown again. I will use only flame-resistant recovery wadding if required.

4. Weight and Power Limits--My model rocket will weigh no more than 1500 grams (53 oz.) at lift-off, and its rocket engines will produce no more than 320 Newton-seconds (4.45 Newtons equal 1.0 pound) of total impulse. My model rocket will weigh no more than the engine manufacturer's recommended maximum lift-off weight for the engines used, or I will use engines recommended by the manufacturer for my model rocket.

5. Stability--I will check the stability of my model rocket before its first flight, except when launching a model rocket of already proven stability.

6. Payloads--Except for insects, my model rocket will never carry live animals or a payload that is intended to be flammable, explosive, or harmful.

7. Launch Site--I will launch my model rocket outdoors in a cleared area, free of tall trees, power lines, buildings, and dry brush and grass. My launch site will be at least as large as that recommended in the following table.

LAUNCH SITE DIMENSIONS

Installed Total Impulse (Newtons-seconds)	Equivalent Engine Type	Minimum Site Dimension (feet) (meters)
0.00-- 1.25	1/4A & 1/2A	50 15
1.26-- 2.50	A	100 30
2.51-- 5.00	B	200 60
5.01-- 10.00	C	400 120
10.01-- 20.00	D	500 150
20.01-- 40.00	E	1000 300
40.01-- 80.00	F	1000 300
80.01--160.00	G	1000 300
160.01--320.00	2Gs	1500 450

8. Launcher--I will launch my model rocket from a stable launching device that provides rigid guidance until the model rocket has reached a speed adequate to ensure a safe flight path. To prevent accidental eye injury, I will always place the launcher so that the end of the rod is above eye level or I will cap the end of the launch rod when approaching it. I will cap or disassemble my launch rod when not in use and I will never store it in an upright position. My launcher will have a jet deflector device to prevent the engine exhaust from hitting the ground directly. I will always clear the area around my launch device of brown grass, dry weeds, and other easy-to-burn materials.

9. Ignition System--The system I use to launch my model rocket will be remotely controlled and electrically operated. It will contain a launching switch that will return to "off" when released. The system will contain a removable safety interlock in series with the launch switch. All persons will remain at least 15 feet (5 meters) from the model rocket when I am igniting model rocket engines totalling 30 Newton-seconds or less of total impulse and at least 30 feet (9 meters) from the model rocket when I am igniting model rocket engines totalling more than 30 Newton-seconds of total impulse. I will use only electrical igniters recommended by the engine manufacturer that will ignite model rocket engine(s) within one second of actuation of the launching switch.

10. Launch Safety--I will ensure that people in the launch area are aware of the pending model rocket launch and can see the model rocket's liftoff before I begin my audible five-second countdown. I will not launch a model rocket using it as a weapon. If my model rocket suffers a misfire, I will not allow anyone to approach it or the launcher until I have made certain that the safety interlock has been removed or that the battery has been disconnected from the ignition system. I will wait one minute after a misfire before allowing anyone to approach the launcher.

11. Flying Conditions--I will launch my model rocket only when the wind is less than 20 miles (30 kilometers) an hour. I will not launch my model rocket so it flies into clouds, near aircraft in flight, or in a manner that is hazardous to people or property.

12. Pre-Launch Test--When conducting research activities with unproven model rocket designs or methods I will, when possible, determine the reliability of my model rocket by pre-launch tests. I will conduct the launching of an unproven design in complete isolation from persons not participating in the actual launching.

13. Launch Angle--My launch device will be pointed within 30 degrees of vertical. I will never use model rocket engines to propel any device horizontally.

14. Recovery Hazards--If a model rocket becomes entangled in a power line or other dangerous place, I will not attempt to retrieve it.

As a member of the Estes Model Rocketry Program, I promise to faithfully follow all rules of safe conduct as established in the above code.

Signature _____

*This is the official Model Rocketry Safety Code of the National Association of Rocketry and the Model Rocket Manufacturers Association.

Important Note: "G" engines must be sold to and used by adults (18 and up) only.

To launch large model rockets weighing more than one lb. (453 g) but no more than 3.3 lbs. (1500 g) including propellant or rockets containing more than 4 oz. (113 g) but no more than 4.4 oz. (125 g) of propellant (net weight), you must notify and perhaps obtain authorization from the Federal Aviation Administration (FAA). Check your telephone directory for the FAA office nearest you or contact Estes Industries for further information.

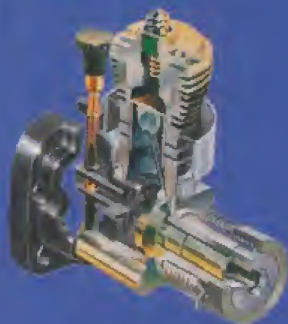
For over 30 years, Cox has lived the on with the sound of propellers and the fantasy of flight. Cox brings that fantasy-of-flight to life with nitro powered glow engines, the whirl of electric power and the gentle pull of rubber power!

COX POWER

COX FLIGHT

COX FUN.

The action starts...
it never ends!



Fun flyer

RUBBER POWERED MODEL AIRPLANE KITS

- Easy to assemble...No Glue...No Tools...
No Sweat!
- Tough durable construction
- Foam fuselages and wings
- Plastic propeller and landing gear
- Cool self-adhesive decals

PIPER C07420
Wingspan: 15.0" (38.10 cm)

CESSNA CLASSIC C07410
Wingspan: 19.0" (48.3 cm)

PIPER CRUISER C07430
Wingspan: 19.0" (48.3 cm)



CESSNA

NEW!



PIPER

NEW!



CESSNA CLASSIC

NEW!



PIPER CRUISER

NEW!

Recommended for ages 8 and up



SKY PIRATE

CONTROL LINE AIRPLANES - ELECTRIC POWERED

THE ULTIMATE IN READY TO FLY

These Cox control line airplanes are ready to fly right out of the box. Just connect the power lines, plug in a fully-charged Cox Super Power 9.6 volt battery pack and push the button on the Cox exclusive Touch & Go D-handle. Smooth take-offs and three point landings are as easy as pushing a button. With the Super Power battery pack clipped to your belt, long flight times are no problem.

- Each plane comes fully assembled and ready to fly out of the box
- Quiet electric power will not disturb the neighborhood
- Factory-installed motor assembly
- Just supply battery and charger and you're ready to fly!

(Super Power 9.6V battery pack and charger not included -- available separately as C00330)



F8F BEARCAT

SKY PIRATE C09500

Wingspan: 23.0" (58.4 cm)
Length: 16.0" (40.6 cm)

F8F BEARCAT C09501

Wingspan: 19.0" (48.2 cm)
Length: 14.75" (37.4 cm)

F8F BEARCAT W/BATTERY AND CHARGER
C09501

SUPER POWER C00330

9.6 V BATTERY PACK AND QUICK CHARGER



Touch & Go D-Handle



SUPER POWER 9.6 V BATTERY PACK AND QUICK CHARGER

Recommended for ages 8 and up

E-Z FLYERS®

With the roar of a glow fuel engine and the propeller chopping through the air, you can take command of the sky with these high performance control line airplanes.

- Each one is equipped with our famous Snap Starter® .049 engine.
- Rubber band assembly and tough molded polystyrene withstand the rigors of flight training.
- Quick to assemble and easy to fly! Complete assembly and flight instructions.
- Glow fuel and starting battery not included. You will need the Cox 405 or 885 Starting kit. See page 61!

E-Z Flyers is a registered Cox trademark.



FIREBIRD™



AEROBAT™



THUNDERBOLT



FORMULA ONE™



**CESSNA
SKYMASTER**



PIPER COMANCHE

**EACH NEW KIT COMES WITH
TWO SETS OF COLORFUL
DECALS!**



FIREBIRD™ C04050

With the Reno Unlimited racing look of this control line plane, you come on strong!
Length: 13.5" (34.3 cm)
Wingspan: 13.5" (34.3 cm)

AEROBAT™ C04060

Own your own private plane - classic high wing design
Length: 12.5" (31.8 cm)
Wingspan: 15.0" (40.6 cm)

THUNDERBOLT C04040

Race your own plane! Racing airplane styling in a tough rugged design.
Length: 16.5" (41.9 cm)
Wingspan: 15.0" (38.1 cm)

CESSNA SKYMASTER C04070

Scale model of famous civilian and military aircraft. Includes multiple decals and a second propeller for advanced flight performance.
Length: 13" (33 cm)
Wingspan: 15.9" (40.4 cm)

FORMULA ONE™ C06010

Sleek pylon racer design complete with multiple decals and a streamer for custom flying.
Length: 13.5" (34.3 cm)
Wingspan: 13.5" (34.3 cm)

PIPER COMANCHE C04080

Own this model of a popular low-wing private airplane! Multiple decals for custom decorating!
Length: 13" (33 cm)
Wingspan: 16.1" (40.9 cm)



NEW!

CONTROL LINE SCALE MODELS

History comes to life with these rugged control line model airplanes. Powered by a Cox .049 glow engine with our exclusive Snap Starter®, you'll get into the air quickly.



PT-19 TRAINER™



AT-6 TEXAN™

CONTROL LINE STUNT FLYERS

Two great models for the intermediate and stunt flyer. Fast and maneuverable. Features a symmetrically airfoiled foam wing, giving you the ability to do a variety of stunt maneuvers. Both require the Cox 405 or 406 Starting Kit -- Not included.



CRUSADER



Mini Starter Kit includes: 1/2 pint of Super Power Fuel®, battery box, Glow Plug, two engine wrenches and fuel filler hose. (Requires 2 "D" Cell Alkaline Batteries (not included). Fuel bottle may vary in appearance. Super Power Fuel is a registered trademark of Cox.



CORSAIR

CONTROL LINE SCALE MODELS

PT-19 TRAINER™ C05700

Great control line airplane for the first timer. Generations of model flyers have learned with this one. Rubber band pop-apart assembly for the rigors of flight training.

Length: 16.5" (41.9 cm)

Wingspan: 22.5" (57.1 cm)

PT-19 TRAINER™ WITH MINI STARTER KIT

C05761

AT-6 TEXAN™ C09800

Modeled after the famous AT-6 Reno pylon racers. Wonderful beginner's airplane. Rubber band pop-apart assembly for the rigors of flight training and racing.

Length: 15.0" (38.1 cm)

Wingspan: 20.5" (52.0 cm)

AT-6 TEXAN™ W/ MINI

STARTER KIT: C09861

CORSAIR

WITH MINI STARTER KIT C09900

Own a piece of WWII history with this control line model. Rugged enough for beginners yet challenging enough for experienced pilots!

Length: 15.0" (38.1 cm)

Wingspan: 19.0" (48.3 cm)

CONTROL LINE STUNT FLYERS

CRUSADER C05600

Features a control system that can be set from ultra stable level flight to full maneuverability.

Length: 17.5" (44.5 cm)

Wingspan: 21.5" (55.2 cm)

ME-109™ C05400

Features a fuel tank that will allow sustained inverted flight and full aerobatic maneuvers!

Length: 20.0" (50.8 cm)

Wingspan: 30.5" (77.4 cm)



ME-109™

Recommended for ages 10 and up



SURE START™

The future of flight -- NOW!

The next generation of powerful Cox .049 glow engines feature Sure Start™. It eliminates the need for external priming, giving you a quicker, easier starting engine. Each Sure Start™ engine comes complete with the Cox Snap Starter®.

NEW!



SLIPSTREAM™

NEW!



BACKDRAFT™

NEW!



APACHE
HELICOPTER

SLIPSTREAM™ C06040

This business jet has you piloting the skies in style. Realistic looking - goes flying! Wide wingspan provides a stable flight for beginners and intermediate fliers! Equipped with the new Cox Sure Start™ .049 engine.

Length: 20.5" (52.1 cm)

Wingspan: 22" (55.9 cm)

BACKDRAFT™ C06030

Futuristic pusher design with a stealthy appearance. Unique pop-up fuselage allows safe engine starting. Backdraft™ comes complete with military decals for an authentic look. Powered by the new Cox Sure Start™ .049 engine.

Length: 16" (40.6 cm)

Wingspan: 18" (45.7 cm)

APACHE HELICOPTER C06050

Be a chopper jock with the world's only control-line autogyro helicopter. Highly detailed scale-like design. Exciting flights for intermediate to advanced pilots. Rigged with the Cox Sure Start™ .049 engine.

Length: 18.5" (47.0 cm)

Rotor Span: 15" (38.1 cm)

All kits require the Cox #05 or #06 Starting Kit.



FREE FLIGHT HELICOPTERS

Powered by the quick starting .049 engine these free flight helicopters climb to 200 ft (60 m) in the air. After the fuel is expended, the choppers descend safely to earth by auto-rotation. Each kit is easily assembled and comes complete with fuel-proof decals. The .049 engine comes with the Cox Snap Starter® for easy starting. All kits require the Cox 405 or 885 Starting Kit.



AIR RESCUE™



ATTACK COBRA™



SKY JUMPER®

AIR RESCUE™ C04300

This scale model of the Huey UH-1D comes to your rescue in a bright "Search and Rescue" scheme.

AIR RESCUE™ WITH MINI

STARTING KIT C04361

ATTACK COBRA™ C04500

Go on the attack with this scale model of the Cobra gunship. Comes with the super scheme - Marines of Army.

ATTACK COBRA™ WITH MINI

STARTING KIT C04561

SKY JUMPER® C04800

Scale model of the Huey UH-1D in a U.S. Marine decal. When the fuel runs out, the Sky Jumper™ ejects and parachutes back to earth (figure and parachute included). The copter safely auto-rotates back to Earth.



Sky Jumper is a registered trademark of Cox.



COX RADIO CONTROL

For exciting radio control action, Cox offers you the choice of either quiet electric flight or the fast-paced action of .049 glow-powered engines. You're in charge of the skies whether using our exclusive single channel Failsafe™ or our more advanced two-channel systems.



FLY BOY™



**R/C SKYBIRD™
ELECTRIC**

ELECTRIC R/C

Your easiest entry into R/C flight. You can fly these electric powered airplanes almost anywhere. The radio system and electric motor come installed - ready for you to fly. Simply charge the on-board battery pack with the included charger and you are ready for your first lesson in flight (batteries for the transmitter - not included).

FLY BOY™ C90445

Minimum assembly requirements and a powerfully geared electric motor that starts at the press of a button make the economical Flyboy a logical entry into R/C flight. Includes a fully insulated motor drive and Cox Failsafe™ radio system. Wingspan: 27" (68.5 cm) Length: 27" (68.5 cm)

R/C FLYER™ C90446

The R/C Flyer offers the same great components as the Flyboy, but features a more traditional glider design. Wingspan: 27" (68.5 cm) Length: 27" (68.5 cm)

R/C SKYBIRD™ ELECTRIC C90489

Designed as the ideal starter for people who prefer quiet, clean electric power, the Electric Sky Bird comes complete with high efficiency, geared propeller drive system, rechargeable on-board battery pack, battery charger and proportional two-link, two-channel radio. The Sky Bird features a polyhedral wing to allow slow take-off and good stability. Wingspan: 42" (106.7 cm) Length: 31" (78.7 cm)



R/C FLYER™

**R/C E-Z BEE II™****GLOW POWER R/C**

Enjoy extended flight times and the sound of power as you expand your R/C horizon. All kits feature the powerful Cox .049 engine and a factory-installed radio system.

R/C E-Z BEE II™ C90476

Same size and shape as the E-Z Bee Sport, but a goldpilot with two channel, triggerstick, Cobra radio system. The new trainer if you want to get into serious R/C flying!
Wingspan: 55" (139.7 cm)
Length: 31" (78.7 cm)

LAZY BEE™ C90450

Unique looking plane is sure to be noticed by any third field! A great trainer. Large control surfaces for quick response and can be flown in small area. Cox .049 equipped with a long duration fuel tank. Two channel, two stick, full proportional equipped radio system is factory installed. Plane is easy to assemble. Made of tough yet lightweight foam.
Wingspan: 39" (99.1 cm)
Length: 32.75" (83.3 cm)

R/C E-Z BEE SPORT™ C90480

Features the FastGate™ Radio Control System and the powerful Snap Starter® equipped .049 Cox Side Box engine. Plastic nose makes it durable support for landing gear and engine. Tough polystyrene wings. Rattle and roll keep these planes light for long duration flights.
Wingspan: 55" (139.7 cm)
Length: 31" (78.7 cm)

LAZY BEE™**R/C SKYBIRD™ GAS C90475**

R/C SkyBird comes with a two channel, two stick, fully proportional equipped radio controlled plane. Shallow wingspan for increased wind penetration. Comes with the powerful Cox Babe Bee .049 engine. Easy to assemble in less than hour.
Wingspan: 42" (106.7 cm)
Length: 31" (78.7 cm)
All kits require Cox 405 or 855 Starting Kit.

R/C E-Z BEE SPORT™**R/C SKYBIRD™ GAS**

COX ENGINES

BABE BEE .049 C00350

BLACK WIDOW .049 C00150

Reed valve engines for all-round Control Line, R/C and Free Flight flying

TEXACO .049 C04506

The standard in R/C duration flying in the 1/2A class

TEE DEE® .020 C00160

TEE DEE® .049 C00170

TEE DEE® .051 C00200

TEE DEE® .09 C00210

Tee Dee® engines - precision machined for intense competition

TEE DEE® R/C .09 C00211

Throttle and muffler equipped R/C engine. Lightweight with a precision carburetor

TEE DEE® .010 C00130

World's smallest production engine for R/C and Free Flight

KILLER BEE .049 C00340

The ultimate competition engine - ultra high RPM's on small props with high nitro fuel and high compression glow head. Multiple head gaskets allow lower compressions, lower nitro and bigger props.



BABE BEE .049

BLACK WIDOW .049

TEXACO .049



TEE DEE® .020

TEE DEE® .049

TEE DEE® .051

TEE DEE® .09



TEE DEE® R/C .09

TEE DEE® .010

KILLER BEE .049



BASIC STARTING KIT



NITRO CAT™



SHRIKE®

ACCESSORIES

BASIC STARTING KIT C00405

Contains: 1/2 pint of Super Power Fuel®, fuel filler hose, battery case holder for 2 "D" size alkaline batteries (not included), exclusive Cox Starter Stick™, glow head clip and two multi-purpose .049 engine wrenches.

DELUXE STARTING KIT C00885

Deluxe reusable plastic field box contains: 1/2 pint of Super Power Fuel®, fuel filler hose, battery case holder for 2 "D" size alkaline batteries (not included), exclusive Cox Starter Stick™, glow head clip and two multi-purpose .049 engine wrenches.



DELUXE STARTING KIT

NITROCAT™ C09200

If you don't want to fly, how about ripping over water, snow or grass in the this Cox .049 powered air boat complete with an easy-to-use single channel, single stick radio control. You can run this boat year around! Easy to build. Comes complete with radio system and .049 Cox engine with Snap Starter®. (Requires Cox C00405 or Cox C00885 Starting Kit)

NITRO CAT™ WITH MINI STARTING KIT C09261

SHRIKE® C09100

Cox .049 prop powered, free running race car for high speed action. Go for your own land speed records -- tether this hot red howler and watch the speed build.

SHRIKE® WITH MINI STARTING KIT C09161

COX 90 DAY WARRANTY

For 90 days from the date of purchase, Cox will repair or replace any factory defects without charge. If you find a defect or need replacement parts, please contact the Cox Customer Service Department. If you wish to return a defective part, send only the affected part along with proof of purchase to: Cox Customer Service, 1295 H Street, Penrose, CO 81240. Please do not send the entire model. There may be an additional handling charge if you send the entire model kit.

This warranty applies only if the product is operated in accordance with the enclosed assembly and operating instructions provided with each model. Cox assumes no liability except for the exclusive remedy of repair or replacement of parts as specified above. Cox shall not be liable for consequential or incidental damages. Some states do not allow the exclusion of consequential or incidental damages so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The above warranty excludes all glow heads used on glow fuel powered models.

Read enclosed instructions and safety information before using this product.

JOIN THE ESTES AIR FORCE'S LIGHT GLIDER SQUADRON

Light Gliders come in two varieties:

- Rubber powered aircraft complete with plastic propellers and pre-built plastic landing gear
- Die cut foam wings and tail surfaces
- No tools, no glue and no cutting--easy and quick to build.



HI-LITE®



WHIRLWIND™

CYCLONE™

Light Gliders

By *Estes*

NEW!

HI-LITE® EST 4000

Brightly colored printed foam wings and tail surfaces will have you flying fast. Easy to assemble and fly with plastic joining pieces. No tools, no glue and no cutting.
Wingspan: 13" (33 cm)

WHIRLWIND™ EST 4005

You'll love this terrific flying rubber powered airplane with a 15 inch cambered wing span. Self adhesive decale and plastic connecting pieces. No tools, cutting or glue -- quick assembly!
Wingspan: 15" (38.1 cm)

CYCLONE™ EST 4004

No trouble getting this giant 19 inch wing span glider into the air. Features cambered foam wings, stab and tail surfaces. Bright neon green plastic pieces and self adhesive decale. Great flying airplane!
Wingspan: 19" (48.3 cm)

PHANTOM™ EST 4001

Put this fantastic flier into the air like a kite, release the line, and the glider floats back to earth. Can also be hand launched.
Wingspan: 23.5" (59.7 cm)

MIRAGE™ EST 4002

Wind the prop on this plane, toss it into the air and watch it fly! Rubber powered featuring plastic propeller and landing gear.
Wingspan: 19.5" (49.5 cm)

FLIGHT MASTER® EST 4003

Huge 23.5 inch wingspan gives you a super duration flyer! Rubber powered featuring plastic propeller and landing gear.
Wingspan: 23.5" (59.7 cm)

Or:

- Long duration fliers with pre-shaped bamboo wings, stabilizers and rudder
- Features plastic ribs and connector for easy assembly
- Brightly colored Flex-Coat tissue provided to cover flying surfaces
- Requires white or yellow glue or a glue stick and minimal cutting
- Simple to build. Glue and tools not included!



PHANTOM™



MIRAGE™



FLIGHT MASTER®

EARN YOUR WINGS IN THE ESTES AIR FORCE WITH WEST WINGS

- Easy to build profile model airplane kits
- Die cut high grade balsa
- Printed with authentic details and markings
- Add your own colors with markers
- Great flying gliders!
- **NEW!** Catapult-launched gliders come complete with plastic handle and heavy duty rubber band.



F-15 EAGLE



F-16 FALCON



F-18 HORNET



F-14 TOMCAT



F-111 AARDVARK



TORNADO



C-130 HERCULES



SPACE SHUTTLE

WESTWINGS

BY *Estes*

F-15 EAGLE EST 5009

Catapult launch your own model of a USAF fighter bomber Veteran of Desert Storm! Printed in blue
Wingspan: 9.9' (25.1 cm), Length: 15.0' (38.1 cm)

F-111 AARDVARK EST 5008

Zoom into the sky with the Air Force's super-sonic swing v fighter bomber! Catapult launched, Printed in blue.
Wingspan: 11.75' (29.9 cm), Length: 15.25' (38.75 cm)

F-16 FALCON EST 5001

Command the skies with your own USAF's front line tactics fighter. Printed in black!
Hand launched!
Wingspan: 7.75' (19.7 cm), Length: 11.25' (28.6 cm)

TORNADO EST 5006

Patrol the skies with Europe's hot fighter. Printed in black
Wingspan: 12.5' (31.8 cm), Length: 9.5' (24.1 cm)

F-18 HORNET EST 5007

Fly off the deck with this premier US Navy fighter. Printed in black. Hand launched
Wingspan: 8.75' (22.2 cm), Length: 11.50' (29.2 cm)

C-130 HERCULES EST 5000

Fly your own version of the USAF's heavy lifter. Over 15 inch wingspan. Printed in black. Hand launched!
Wingspan: 15.25' (38.7 cm), Length: 11.25' (28.6 cm)

F-14 TOMCAT EST 5005

Be your own Top Gun with this US Navy fighter. Printed in black. Hand launched!
Wingspan: 7.25' (18.4 cm), Length: 11.50' (29.2 cm)

SPACE SHUTTLE EST 5004

Command your own Shuttle on its glide path back to Earth! Printed in black. Hand launched!
Wingspan: 7.0' (17.8 cm), Length: 11.75' (29.8 cm)

Recommended for ages 8 and up for hand launched kits, ages 10 and up for catapult launched kits. Requires modeling knife, straight pins, wax paper and white or yellow glue -- Not Included!

STAR WARS™

BURST INTO THIS GALAXY
WITH *Star Wars* ACTION
MODELS!

WEST WINGS *Star Wars* FLYING ACTION MODELS

- Profile flying kits from the *Star Wars* movies
- Precision die-cut balsa with printed details and markings
- Easy to build and fly!
- The catapult launched models include plastic-molded launcher and heavy-duty rubber band

WESTWINGS
BY *Estes*



X-WING
FIGHTER



Y-WING
FIGHTER



STAR
DESTROYER



A-WING
FIGHTER

All kits require assembly and construction supplies. Hand launched kits for ages 8 and up. Catapult kits for ages 10 and up

Actual product may vary slightly in appearance.



ESTES STARTER SETS

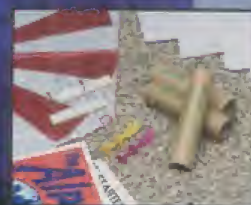
All Starter Sets include Electron Beam® Launch Controller, Porta-Pad® II Launch Pad, engines and flight supplies for multiple missions! 4 AA alkaline batteries required-not included!



X-WING
STARTER SET



DEATH STAR
STARTER SET



A-WING
STARTER SET



Y-WING
STARTER SET

Ages 10 and up. Adult supervision for those under 12.

WEST WINGS BALSA GLIDERS

X-WING FIGHTER EST 5022

Fly this key Rebel fighter craft. Hand launched gliding model—printed in Rebel blue ink.

Y-WING FIGHTER EST 5023

Add to your Rebel fleet with this fighter. Hand launched gliding model—printed in Rebel blue ink.

STAR DESTROYER EST 5020

Command your own Star Destroyer against the Rebel fleet! Catapult launched gliding model—printed in Imperial black ink.

A-WING FIGHTER EST 5021

Fly one of the Rebel's fastest fighters. Catapult launched gliding model—printed in Rebel blue ink.

ESTES STARTER SETS

X-WING STARTER SET EST 1490

Be Luke Skywalker and fly his X-wing! Easy to build with detailed plastic construction! Parachute recovery. Soars to over 400 feet (122 meters)!

DEATH STAR STARTER SET EST 1493

Fly the Death Star and watch it burst apart in the sky! Multiple pieces return on streamers. Reassemble and fly again and again!

Y-WING STARTER SET EST 1492

Be a part of the famous Gold Squadron during the attack on the Death Star. Rocket powered with detailed plastic parts. Easy to build! Parachute recovery.

A-WING STARTER SET EST 1491

Built for speed and Rebel fighter support! Defend the Alliance! Accurately detailed in plastic. Easy to build! Parachute recovery.

STAR WARS™



ESTES FLYING MODEL ROCKETS

Add to your *Star Wars* collection with these fantastic flying rocket models! Some painting and cutting required.



R2-D2



DEATH STAR



STAR DESTROYER

DARTH VADER'S TIE FIGHTER



SHUTTLE TYDIRIUM



MILLENNIUM FALCON

R2-D2 EST 2142

Fly the beloved droid of the *Star Wars* saga. Easy to build with realistic details and graphics.

SPECS: Skill Level: 1, Length: 8.0" (20.3 cm), Dia.: 2.6" (66 mm), WL: 3.0 oz (85 g), Recovery: 12" (30 cm) Parachute, Max. Altitude: 250 ft (75 m), Recommended Engines: B4-2 (first flight), B6-2, C6-3

DARTH VADER'S TIE FIGHTER EST 2144

Fight the Rebels with Vader's personal attack craft. Molded in highly detailed plastic. Special atmospheric flight probe attached quickly for flight. Soars to over 500 ft (152 m).

SPECS: Skill Level: 1, Length: 16.5" (41.9 cm), Dia.: 5.0" (14.6 cm), WL: 3.8 oz (107 g), Recovery: 16" (41 cm) Parachute, Max. Altitude: 250 ft (75 m), Recommended Engines: B4-2 (first flight), B6-2, C6-3

DEATH STAR EST 2143

Fly the Death Star and watch it burst apart in the sky. Multiple pieces return on streamers. Reassemble and fly again and again!

SPECS: Skill Level: 1, Length: 15.5" (39.4 cm), Dia.: 5.0" (12.7 cm), WL: 2.3 oz (65 g), Recovery: Streamers and 12" (30 cm) Parachute, Recommended Engines: B6-2 (first flight), C5-3, C6-3

STAR DESTROYER EST 2147

Power your way through the Rebel fleet with this flying rocket version of the ominous Star Destroyer.

SHUTTLE TYDIRIUM EST 2148

Help the Rebels defeat the Empire with your own flying model of the Shuttle Tydirium.

MILLENNIUM FALCON EST 2146

Roar through the galaxy with Han Solo and Chewbacca with your own flying model of the Millennium Falcon.

Ages 10 and up. Adult supervision for those under 12. Actual product may vary slightly in appearance.

STAR WARTM

COX CONTROL LINE AIRCRAFT

Fly through the *Star Wars* universe with these exciting Cox-Star Wars models. Each is powered by a Cox Sure StartTM .049 engine and molded out of tough polystyrene to absorb the bumps and bruises of battle. Each kit assembles quickly -- no glue required.



**TIE FIGHTER/X-WING
FIGHTER COMBAT SET**



X-WING FIGHTER

**DARTH VADER'S
TIE FIGHTER**



**DEATH STAR
BATTLE STATION**



SNOWSPEEDER



LANDSPEEDER

X-WING FIGHTER

CONTROL LINE C09318

Race through the galaxy with Luke Skywalker's X-wing fighter!

DARTH VADER'S TIE FIGHTER

CONTROL LINE C09330

Close the Rebel Alliance's wings in Darth Vader's Tie fighter!

SNOWSPEEDER

CONTROL LINE C09320

Reunite the Battle of Hoth with your control line snowspeeder!

TIE FIGHTER/X-WING FIGHTER

COMBAT SET C09418

Get a buddy and set on your own dogfight between the light side and the dark side of the Force. Includes one control line X-wing and one control line Tie fighter plus rules and safety instructions!

DEATH STAR BATTLE STATION

RADIO CONTROL C09420

Let the Force be with you as you attack the Empire's ultimate weapon! First of its kind R/C spacecraft. Unique system: the control line X-wing enters around the industrial Death Star. Includes single channel radio, Death Star Battle Station R/C Control Center, control line X-wing fighter.

LANDSPEEDER C09430

Race across the desert of Tatooine in your own single channel R/C controlled landspeeder. Powered by the Sure StartTM .049 engine. Simulated hover with special wheelpops!

All kits require the Cox .049 or .045 Sure StartTM engine.

Recommended for ages 10 and up.
Actual product may vary slightly in appearance.

STAR WAR'S™

STERLING™ MODELS CONTROL LINE FLIERS

Build and fly your own profile *Star Wars* control line fighters. All balsa parts are precision die cut. Engine mount, wheels and control system are molded in tough nylon and included in each kit. Requires a Cox Babe Bee .049 engine (not included). Each kit includes full plans, instructions and highly detailed decal sheet.



*North
Coast
Rocketry™*
BY **ESTES**

NORTH COAST ROCKETRY

High powered model rocket fun for the adult rocket modeler.

STERLING™ MODELS

X-WING FIGHTER

CONTROL LINE STE 6780
Experiences that come in your hands and fly your own X-wing fighter.

Y-WING FIGHTER

CONTROL LINE STE 6781
Fly this unique flying model of this Rebel starship fighter. Fight the Empire!

NORTH COAST ROCKETRY

X-WING FIGHTER

HIGH-IMPULSE™ ROCKET NCR 3940
Fly your X-wing and fly the movie space war model. Incredible detailing. Full section plans and motor.
SPEC'S: Length 21 1/2" (547 mm), Wingspan 21 1/2" (547 mm),
WL 12 1/2" (317 mm), Recovery: 20" (508 mm) Nose Parachute
Recommended Motors: BB-4, B-4, C-4



X-WING FIGHTER



Y-WING FIGHTER

Recommended for those 10 years of age and up. Adult supervision recommended for those under 12 years of age.

Actual product may vary slightly in appearance.



**HIGH
IMPULSE**

X-WING FIGHTER

Kit requires assembly. Modeling tools, glue and paint not included. Recommended for ages 18 and up.

MORE FUN, MORE GALAXIES TO EXPLORE!

There is more to the Estes hobby universe than Estes model rockets. Car flying products, Light Gliders and West Wings model airplane kits. Explore your nearest hobby retailer and see more exciting hobby products.



**STERLING™ MODELS
PLANES AND BOATS**



**MDS R/C
MODEL ENGINES**



MDS

HIGH PERFORMANCE
MODEL ENGINES

WESTON

Estes

*North
Coast
Rocketry™*

BY **ESTES**

STERLING™ MODELS

Discover the adventure of model aviation and boating with **STERLING™ MODELS** by **ESTES®**. The Sterling™ Modeling world of balsa, wood and precision plastic models includes rubber band powered free flight aircraft of WWI, WWII, aerobatic and civilian favorites; control line flying models of famous trainers, stuntlers and scale aircraft designed for .049 to .36 model engines plus model sail boats, racing boats and battle ships for action on the "high seas".

MDS R/C MODEL ENGINES

When you need an R/C Model engine. Designed for Success, choose MDS Model Engines. Engineered and manufactured in Russia by the aerospace conglomerate SAVMA. MDS model engines are the choice for your model aircraft, helicopter and soon... car and boat. Every MDS engine is manufactured for performance with features like Schnuerle ported "ABC" design, ball bearing crankshaft support and a tough investment cast crankcase.

WESTON UK MODEL PRODUCTS

Imported from England, this series of superior quality "Genesis" and "Viper" replacement mufflers add power and reduce noise to your model engine. Soft Mount engine mounts minimize engine vibration damage and the R/C Delta Wing "Tiger Shark™" adds thrills to delta wing R/C flying!

NORTH COAST ROCKETRY™

Unleash the power of F and G engines! These colossal-sized models thunder off the pad! For adults, North Coast rockets are bigger, stronger, more powerful rockets with all the safety and features of Estes model rocket quality. Get started in High Impulse™ rocketry with North Coast Rocketry™ products.



**WESTON UK
MODEL PRODUCTS**

**NORTH COAST
ROCKETRY™**

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